

California State Journal of Medicine.

Owned and Published Monthly by the

Medical Society of the State of California

PHILIP MILLS JONES, M. D., Secretary and Editor

PUBLICATION COMMITTEE

Fayette W. Birtch, M. D.

René Bine, M. D.

Wm. P. Lucas, M. D.

Sol. Hyman, M. D.

Advertising Committee:

R. E. Bering, M. D., Chairman

Thos. E. Shumate, M. D.

ADDRESS ALL COMMUNICATIONS

Secretary State Society,

State Journal,

Official Register,

Butler Building,

San Francisco.

Telephone Douglas 2537

IMPORTANT NOTICE!

All Scientific Papers submitted for Publication must be typewritten.

Notify the office promptly of any change of address, in order that mailing list and addresses in the Register may be corrected.

VOL. XIII DECEMBER, 1915 No. 12

EDITORIAL NOTES

DECEMBER—THE END OF ANOTHER YEAR.

This is the last number of the thirteenth volume of your JOURNAL, and in spite of the supposedly unluckiness of the "13" part of it, it has been a very good year. Instead of a decrease in advertising returns, as was expected, we have actually had an increase. While there was no meeting of the State Society, and thus some forty or more papers, which usually come in for publication, did not arrive, there was an ample supply of contributions and of a quality rather above the average. Some notable articles have appeared during the past year. The meeting of the American Medical Association and of the Pan-American Medical Congress brought many distinguished physicians to San Francisco and of course to other parts of the state as well. To say that the meeting of the A. M. A. was a great success is to state what our members know quite well, for so many of them came, saw, heard and were profited. There never was a time when our members should stand more closely together; when the solidity and stability of the organization was of such great importance and necessity. Suits for alleged malpractice have greatly increased in number and no physician seems to be safe from such attacks. It is a condition hard to explain, but there seems to be a regular fever of desire to "sue the doctor"; most of the time of the Secretary and half of the income of the Society, are taken up with this work alone. To be sure, we win the suits—during 1915 we lost but one, and

in that case the verdict was a sympathetic one and for but \$500—but it requires an immense amount of work and time to prepare the cases and try them. A very large number never come to trial, but we have to be ready for them, just the same. This is no time for the airing of personal differences; let them go and become forgotten. And above all, guard well your tongue against idle criticism of another physician's work or treatment. Without the State Society organization behind them, with its legal department watching their interests, the physicians of this state would have been in a sorry plight during the past year; it would have cost the individual physicians who have been threatened or actually sued, anywhere from fifty to sixty thousand dollars to care for their own interests. And with these few words of summary, may the season's greetings go to each and every one; it has been a good year in many ways—let us see to it that we make the next one better—and carry through it that one thought: Guard well your tongue from criticism.

BUSINESS!!

Dues are payable January 1st. That is an important matter for you to remember, for the work of the Society is growing in magnitude so fast that business principles must be followed. Do not make any more trouble for the secretary of your county society than you can help—therefore, pay your dues promptly. All memberships terminate December 31st, but in order to give old members a chance to retain their membership, they are allowed 60 days in which to be reported to this office, and the assessment paid. That is, to March 1st. Any old member not reported and paid for before March 1st, is recorded as dropped from the first day of the year and is put back as a *new member* from the date when, and if, he is again reported. *He loses all right to medical defense during the time between January 1st and the date when he is reported, after March 1st.* Suits for damages for alleged malpractice are increasing so rapidly that no member can afford to be without the protection of the State Society for a single day. *Be sure to pay your dues early and avoid trouble.*

NEVADA STATE MEETING.

The meeting of the Nevada State Medical Society, held October 13, 14, and 15, was well attended and an excellent program was offered. We note the names of a number of California physicians on the program. Harry Alderson, on "The Cure of Syphilis"; A. B. McKee, on "Operations in the Eye Clinic of Stanford"; George Rothganger, on "The Ideal Operation for Aneurysm"; John Zeig, on "Serums and Vaccines"; H. D'Arcy Power, on "Articular Gout"; W. F. Schaller, on "Brain Tumors"; J. B. Harris (Sacramento), on "Treatment of Traumatic Epilepsy"; T. C. McCleave (Berkeley), on "The Relation of Milk to Public Health"; Leonard W. Ely, on "Joint Tuberculosis" and Martin Molony on "Prostatectomy."

DANGER AVERTED.

The wisdom of referring the names of all applicants for membership in county societies to the office of the State Society for a report before taking any action, was emphatically illustrated quite recently when the secretary of a certain county society sent in the name of one Frank B. Morrill as an applicant. The records disclose but one of this name licensed in this state. They also disclose the fact that the person of this name was an advertising specialist in "men's diseases" and "blood diseases" on Third street, near Market street, San Francisco, and that there were many nasty cases reported about him. The activities of the Board of Medical Examiners made it very uncomfortable for him and so, presumably, he decided to be good and get all whitewashed so he would look nice and clean. Wouldn't he make a nice member!

TAXING PHYSICIANS.

A prominent member of the Society writes as follows: "Can a city legally collect a business license tax from a licensed physician, in this state"? It can. There are a number of supreme court decisions on this point, one of them here in California. Furthermore, we find in Blackstone's Commentaries, Book III, Ch. 9, 158: "For it is a part of the original contract, entered into by all mankind who partake the benefits of society, to submit in all points to the municipal constitutions and local ordinances of that state, of which each individual is a member. Whatever, therefore, the laws order anyone to pay, that becomes instantly a debt, which he hath beforehand contracted to discharge." This is fundamental common law, and provided the local ordinance is not so worded as to discriminate against persons of the same class, and that it does not conflict with a superior statute, it is good and valid. Those following any special calling, as lawyers, clergymen, physicians and the like, may be compelled to pay a local tax if the community so wills it and provided all are treated alike. "Can one to whom the state has issued a license to practice anywhere in the state be further required to pay a further license to the local municipality?" This point involves in part what has been said. It obviously shows a lack of appreciation of what a license to practice medicine really is, which is almost universal. A license to practice is not a right held by the individual; it is in no sense property. It is rather a right held by the state and is in the nature of a temporary police permit to practice medicine, without molestation, provided the regulations formulated by the state are complied with. It may be withdrawn at any time, by the state; if these regulations are not complied with. One holding a license does not have to use it; he may not wish to practice as a means of livelihood, in which event the municipality, even though having an ordinance taxing practicing physicians, could not extract from him the amount of this tax. Medicine, like law, as a profession, has lost much of its original quality. The introduction of the system of charging fees, in both instances, bring them somewhat from out the domain of a pure

profession and place them, at least in part, in the class with business enterprises where individuals do things for gain or profit. Formerly neither profession, or the members of it, *charged* anything for their services. Originally lawyers were officers of the crown and physicians received such emoluments or honorariums as were *voluntarily* given them. It is only recently that either could sue to collect fees from client or patient.

SOCIAL INSURANCE.

In view of the fact that the JOURNAL, from the time that industrial insurance was first broached in this state, expressed the opinion that it was merely the forerunner of general sickness insurance, the following (*infra*) editorial from a recent number of the Journal A. M. A., is interesting. It is a safe bet that this further sociologic change will be along within the next five years, but by that time we will have learned many things as to social insurance from our experience with industrial accident and occupational disease insurance, both of which we now have with us:

"The appointment by the governor of California of a commission to study social insurance, and the appropriation of \$20,000 for the purpose, is an evidence of the growing interest in this subject. The commission, consisting of five members, is not only directed to study social insurance systems at home and abroad, but is also empowered to recommend schemes for adoption by the state. California has just included occupational diseases within the scope of its workmen's compensation act, and the next logical step is the introduction of an insurance scheme to care for all sickness among wage earners. The more efficient medical care which a system of health insurance would provide for the workers of California is as greatly needed as it was in Great Britain. With the initiation of medical benefit under the British compulsory insurance system, many persons for the first time were able to afford the luxury of medical attention, and for the first time physicians were able to treat disease in its incipient stages among the industrial population. English physicians are expressing their surprise at the mass of suffering which previously was uncared for. The failure of many persons in this country at present to receive medical care constitutes the best argument for a change to the more effectual provision for medical attention offered by health insurance. At this time, when attention is being focused on these forms of insurance new to this country, the American Association for Labor Legislation, after three years of careful study, has prepared the draft of a health insurance bill which, it is announced, will be introduced into several legislatures next winter. This activity justifies the prophecy, previously made by the Journal, that the enactment of workmen's compensation laws would lead to new measures for both health and accident insurance."

HAY-FEVER IN CALIFORNIA?

Dr. W. Scheppergrell, the President of the American Hay-Fever Prevention Association, Audubon Building, New Orleans, is very anxious to know some facts as to the existence and the amount of hay-fever in California, and whether it appears to be increasing or decreasing, and if so, in what localities. The hay-fever sufferer is a very pitiable object and about the only thing that he can do is to go to some place where hay-fever does not exist—if he has the means. Will our members who happen to have any definite knowledge of the existence or absence of hay-fever, and of the presence or absence of the rag-weeds that produce it, please advise Dr. Scheppergrell? The information may be of advantage to those eastern sufferers and, incidentally, to California by coaxing them to come here for relief. He will be very grateful for any information which may be sent to him.

PUBLIC HEALTH; MEDICAL JURISPRUDENCE.

Two books of rather unusual interest, especially at this time when changes are so rapid and suits so very frequent, have recently appeared. "Medical Jurisprudence," by Elmer D. Brothers, of the Chicago Bar, published by the C. V. Mosby Co., St. Louis, is an interestingly written treatise on forensic medicine which it be well worth while for any physician to read. Doctors as a class are lamentably ignorant of their personal and professional rights and wrongs, duties and obligations. Indeed, so many queries of this sort are coming to the office, that from month to month we shall publish items on various points that have been raised. The other book is "Legal Principles of Public Health Administration," by Henry Bixby Hemenway, published by T. H. Flood & Co., Chicago. It is difficult to see how any public health officer could get along without such a book; and certainly to have read it and to have it at hand, would save any such official much perplexity and probably some worry. Speaking of specially trained health officials, the author says something quite apropos of the Sacramento incident:

"For this special training there may be little demand outside of the governmental work. As an incentive to acquire special fitness the officer should be led to expect permanency of tenure with pay commensurate with the character of the duties. In commercial business it is found to be economical to pay sufficiently large salaries to the higher employees to make it an object to them to study constantly how their particular branches of the work may be improved, either as to quality of the work performed or as to amount of out-

put. Such employees are retained so long as they can 'make good,' to use the business expression, and the pay is made sufficiently high so that they will not be looking for other positions. The state must compete with commercial establishments for men. Certainly the business of the entire commonwealth is as important as that of any portion as represented by a single commercial establishment."

In other words, if modern business finds that it pays to have well-paid experts, why should it not follow that the principle applies to a city; and especially to its health?

PHOTOGRAPHS, PLEASE!

On several previous occasions we have referred briefly to the records concerning physicians which are being gathered in the office of the State Society. The desire is to secure and file away all the information it is possible to get about any and every physician in California. It is exceedingly valuable, the commendatory information no less than that which reflects unfavorably. The question of identity has come up on a number of occasions and in one instance several weeks were required before we could obtain a certain sample of a physician's writing in order to identify a signature to an official document. You have no idea of the importance of this apparently trivial thing of absolutely fixing the identity of a certain individual. For that reason we are filing, as fast as the work can be done and the material secured, samples of handwriting, photographs, etc. Will you please send us your photograph? Preferably, an unmounted one, with your signature on the back; but any sort of photograph will do. We have a few hundred photographs and they come in very handy; we want all we can get; will you help? Please do.

RAY LYMAN WILBUR, M. D., COUNTRY DOCTOR, PRESIDENT OF STANFORD.

The back-bone of the medical profession is not the city specialist or the wonderfully able surgeon; as the JOURNAL has always contended, it is the country doctor who is thorough, careful and conscientious; who works hard and studies hard and who has a large conception of humanity and of human nature and frailty. It is therefore a very great pleasure to record the appointment of Dr. Ray Lyman Wilbur to the presidency of one of the large universities of this country—Leland Stanford, Jr., University. The opportunity has been given him to extend his work and his activities into a very large field and the knowledge and the training which he acquired as a good "country doctor" will enable him to be very useful to the institution whose future destinies and policies he is to largely guide and shape. It would probably be conventional to compliment Dr. Wilbur upon his appointment; but would it not be more fitting to felicitate Stanford University and to compliment the medical profession and particularly the country doctor upon this recognition of what it, and the type, may stand for in the community?

ORIGINAL ARTICLES

AMPUTATIONS AND THEIR AFTER-TREATMENT.*

By L. ELOESSER, M. D., San Francisco.

(From the Surgical Service of Stanford University Medical Dept. at the San Francisco Hospital.)

The subject of amputations is one that up to recent years has long been neglected and overshadowed by more important modern achievements in abdominal, thoracic and cranial surgery. We can glean more useful information from older surgical writers—Velveau and other old French and English surgeons—than from the more modern text-books. Of course these writers of a day when amputations made up more than half of all major surgical procedures, had a vastly greater experience than we whose knowledge of the treatment of wounds and chronic inflammations of the bones and joints has enabled us to save many limbs that were formerly sacrificed. Our results in amputations, however, lag far behind those in other surgical procedures. F. T. Murphy of Boston made an interesting and careful study of 166 cases of amputation from the Massachusetts General Hospital. He found unsatisfactory results in one-third of them. Crainer found that in 92 diaphyseal amputations but two could be considered as having given ideal results, and that 70 were poor; so that the methods of procedure described in standard text-books must be in urgent need of revision.

If we ask ourselves what are the ideal results to be obtained after amputation, we must distinguish between immediate results and final ones, and it is on the final ones that the future usefulness and comfort of the patient depend.

As to immediate results, we should attain safety of operation, flawless healing of the wound, and a painless post-operative course. Safety of operation—this we have been able to reach. The dangers consist in shock and hemorrhage. We have been able to obviate shock by nerve-blocking methods—spinal and regional anesthesia for the lower extremities and regional anesthesia, especially blocking of the brachial plexus, for the upper. These methods are so well known that I need no longer dwell on them, except, perhaps, to call attention to the usefulness of blocking the brachial plexus above the clavicle with novocain as first described by Kulenkampff. This is a perfectly safe and certain method of securing a complete anesthesia of the arm from somewhat below the shoulder down. It is described in Percy Shields' translation of Braun's book on local anesthesia.

Operative hemorrhage we have been able to combat by the Esmarch constrictor. The use of a constricting bandage, however, carries with it as disagreeable sequels a vaso-motor paralysis and a subsequent tendency to post-operative bleeding from the smaller vessels which have not been tied in the course of operation. It also causes a venous engorgement below the constrictor unless we first express the blood from the distal part of the limb by wrapping it with an elastic bandage. Where one can, therefore, it is better to do with-

out the constrictor. This is perfectly feasible in operations on the arm and the leg if one elevates the limb, holds it elevated five or ten minutes previous to operation, and keeps it so during operation until the main vessels have been clamped. An assistant should hold the foot or the hand well elevated, placing the foot on his shoulder. There is surprisingly little bleeding from the arteries with the limb in this position, and scarcely any back bleeding from the amputated part as the blood has all run from the veins by force of gravity. It is a little awkward, it is true, to make the incisions and to saw off the bone in a vertically elevated member, but this inconvenience is more than made up for by the saving in blood and freedom from hemorrhage after loosening the bandage.

It might seem unnecessary to discuss wound infection here. But if we refer to Murphy's paper again we find that but very few of the amputations cited by him healed by primary intention, and I am sure that all of us have had the same unfortunate experience of seeing amputation stumps break down where they should have healed perfectly. What often happens is this: at the first dressing the end of the stump is a little swollen,—there has been a little post-operative oozing. The skin incision, however, looks perfect. It stays so for four or five days. Then the evident presence of blood clots begins to bother us. We take out a few sutures and endeavor to squeeze out the coagula. We open the wound a little; perhaps introduce a hemostat. A sinus forms; and heals in three or four weeks perhaps, if we are lucky, with a more or less dense scar that is attached to the bone. Or perhaps the infection has been carried to the bone itself and the whole wound breaks open or the sinus persists. Sequestra of the bone are shed until we or our successor are forced to reamputate. This is the history that many of the patients bring with them to the San Francisco Hospital.

The slightest infection in these amputation wounds makes all the difference between a comfortable and useful stump and an annoying and useless one. An infected scar is attached to the bone and it makes the course of after treatment by which we endeavor to secure an end-bearing stump impossible. So that we must work under the most rigorous asepsis, shut off skin contact by means of towels attached to the edges of the incision and use all possible means to prevent a collection of blood in the wound after operation. Wherever there is the least possibility of post-operative oozing (and this is the case in practically all amputations) it is far better to drain—not in order to carry off infectious material, but to give the blood a chance to leak out. A thin drain of rubber-tissue carried through from one end of the wound to the other and removed in 24 hours, as soon as oozing has stopped, will not delay healing at all, but will obviate the necessity of opening many a wound and will relieve us of much anxiety.

In septic conditions, which form a considerable part of indications for amputation, we cannot accomplish primary closure of the wound even if we

* Read before the San Joaquin County Medical Society, February 26, 1915.

are able to disinfect the skin; the incision traverses so many infected lymph-spaces that to seal the soft parts tightly by approximating sutures is to invite disaster. In several septic cases I inserted numerous rubber drains down to the bone and brought the soft parts but loosely together with a few interrupted sutures. I lost the cases from sepsis and afterward wished that I had left the wounds entirely open. Our working conditions in septic amputations are in no wise different to-day than they were in the preantiseptic era. It was a great achievement of Roser's when he advocated leaving all amputation wounds wide open without suture and without a dressing, with merely a pus-basin beneath the limb to catch the secretions as they might fall. He saved many patients by this simple method, who in the hands of others would have fallen a prey to hospital gangrene and the other terrible infections of those days. For all our bi-chloride solutions and outer show of asepsis, the inside of a septic limb is no different to-day than it was sixty years ago.

Helferich recommended a good and simple method of treating septic cases. He simply sawed the limb straight off immediately above the septic area, like a butcher cutting off a leg of meat, without regard to flaps or coverings for the bone. Then after the patient had gotten over his sepsis and the wound was clean and granulating, he did a reamputation by a proper method. This procedure has much to recommend it. It is economical; we are able to approach nearer to the septic area with a simple open incision than we would with a flap operation. If a flap becomes infected, as it often does, we often have to reamputate anyway, and add to the waste of bone at the first operation the additional sacrifice of reamputation. And besides all this, of course, cutting the offending part straight off is far the quickest and simplest way of dealing with sick men whose margin of safety is low,—with septic patients who can ill afford the risk of a complicated surgical procedure.

Patients usually suffer considerable pain the first few days after operation from inflammation of the large wound area and irritation of the many raw nerve endings; especially do they complain on the night following operation of twitching or jumping of the amputated member. There is a spasm of the muscles which, if allowed to continue, may lead to contractures difficult to overcome. The parts can scarcely be set at rest by a splint; the stump is short, the pressure of a tightly fitting splint almost unbearable, and the area over which the splint acts often so small that it is almost impossible to apply sufficient pressure to prevent contracture. Traction with adhesive plaster overcomes all these obstacles;—it relaxes the muscles, prevents spasm, sets the parts at rest and keeps them so. Besides all this, besides relieving post-operative pain, traction has the great advantage of taking the tension from a possibly scanty flap. The adhesive traction should extend high enough above the site of amputation to exert its influence on all muscles inserting on the amputated bone;—thus, in an amputation above the ankle traction should be applied up to the hip in order to relax

the flexors inserting into the tibia at the knee. The dressing over the end of the stump should be sparing, and adhesive traction applied quite close to the end of the stump. Infection through the small dressing should be avoided by the use of antiseptics, camphorphenol, for instance. If the bandages become soaked by post-operative oozing the dressing may be reinforced by gauze or cotton applied over the traction apparatus.

So this is what we must consider first,—freedom from shock and hemorrhage, safe healing of the wound, and freedom from post-operative pain.

The problems as to the usefulness and comfort of the healed stump are more intricate. What have we to demand of a stump? It must be painless, soundly healed and fit to wear an artificial limb without discomfort.

Pain in the stump comes from two sources—from the nerve-trunks and from the bone. Almost all amputated persons suffer from some pain in their limbs at first, a shooting neuralgic pain which is referred to the amputated part. In some this pain continues, often so severe as to be intolerable, causing the so-called stump neuralgia. If it last long enough it makes their lives an agony and is comparable only to facial neuralgia. The pain was formerly thought to come from a neuroma of the nerve-stump. All amputated nerves, however, show some neuroma formation, all of them show a tendency to regenerate, and if we examine the end of a severed nerve under a microscope we always see an intricate maze of off-shoots from the nerve-fibrils—attempts at regeneration—amputation-neuromas. All nerve-stumps show more or less of a neuroma, but not all neuromas are painful. Witzel has shown that their painfulness depends upon attachment to surrounding structures, especially the bone. If a neuroma slips up and down in its sheath easily, as a normal nerve does, it is usually not painful. If it is entangled in a scar or grown fast to the bone, every movement of the limb irritates it and it is a constant source of distress. It is particularly after infected amputations that we meet excruciatingly tender nerve stumps. The lymph spaces are particularly well developed along the nerve-sheath, and infection travels a long way along the nerve, causing a neuritis and a formation of scar-tissue with perineural adhesions. Witzel recommended pulling the nerves out of the wound for a distance of an inch or two, which can be done easily if they are properly isolated, and cutting them off, so that when they retract, their stumps will lie considerably above the level of amputation and will not adhere to the other soft parts. This is a much simpler procedure than the complicated methods of nerve anastomosis recommended by others to avoid neuroma formation, and seems to be equally efficient.

Once the painful neuroma is there, we can excise it. This, however, like the peripheral operations in facial neuralgia does not offer a guaranty against recurrence. I have twice injected the nerve above the neuroma with alcohol. This can be done subcutaneously; the peroneal nerve, for instance, may be injected where it can be felt at the

head of the fibula, or the ulnar nerve at the elbow. Or if the nerve is inaccessible it may be exposed through a small incision before injecting it. This procedure is entirely satisfactory. Tenderness in the neuroma disappears immediately after the injection, and the effect is lasting.

The second source of pain in stumps, the most frequent one perhaps, is in the bone itself. It is not the bone that is painful, but the periosteum, and it is interesting to see how many methods have been advised of sealing the end of the bone so as to make it painless. We have run the gamut through the classical amputations of Langenbeck with a periosteal cuff, through the osteoplastic procedure of Bier, who seals the end of the stump with a pedicled flap of bone, to the newer aperiosteal amputation of Bunge, recently brought forward in America by H. H. M. Lyle.[†] It is the periosteum that is painful. Even normal periosteum is tender to continuous pressure, as anyone may prove for himself by kneeling on his shin-bones for five or ten minutes. Now the periosteum separated in the form of a cuff and laid about the end of a bone, as the classical descriptions advise, does not usually give a smooth, well-rounded stump, but rather a lot of jagged and irregular osteoplastic projections, especially in the femur. Here the periosteum is so adherent that we cannot separate it in a regular cuff; the best we can do is to cover the stump with a lot of periosteal shreds and tabs. It is to secure a smooth covering for the ends of the bone that Bier advised his osteoplastic flap. This procedure is complicated and difficult and entails the sacrifice of a cylinder of bone equal in length to its diameter. If successful it may give us a smooth, rounded stump. If not, if infection and necrosis occur, we have sacrificed a lot of bone and are worse off than we should be without the flap.

How, then, can we secure a smooth, rounded end to the bone, one painless and without projecting spicules? Well, if the periosteum causes spicules and pain, take away the periosteum! This is the very simple idea of Bunge, and it is a most practical one. Simply remove the periosteum for about a quarter of an inch above the level of where the bone is to be sawn, and saw the bone through. This leaves the end of the bone bare. The tender, nerve-carrying periosteum is gone, and with it is gone that membrane whence the jagged projections of the stump originate.

The marrow is another part of the bone which has power of callus-production and is thought by some to be sensitive to pressure. In order to be sure of not getting a bone-production from this source, Bunge advised scooping it out with a curette for a short distance above the end of the stump. Many experiences and experiments have shown that former fears that bone might become necrotic if denuded of its periosteum are groundless. In fact, this method seems to be valuable even in infected cases where there is some subsequent exfoliation of necrotic bone, cases which by former methods of amputation were particularly prone to

be followed by a proliferative periostitis and an irregular and extremely tender stump.

Another way of securing a painless end-bearing stump is to utilize surfaces naturally adapted to weight-bearing or others naturally free of periosteal investiture. This, of course, is only possible in certain locations. At the ankle we can secure good end-bearing stumps by utilizing the natural weight-bearing surface of the os calcis in a Pirogoff amputation. At the knee we can, instead of doing a supracondylar amputation exarticulate. The dread of exarticulation at the knee is a legend of pre-antiseptic days. We need no longer fear to open the knee-joint nor fear the interminable suppuration caused by exfoliating infected cartilage if we observe proper asepsis. The cartilage of the femoral condyles is free of nerves and gives us an excellent end-bearing surface, which should be used in all aseptic cases where we have skin enough to form a proper flap.

Epiphyseal amputations also give good painless stumps. The ends of the bone do not seem to share the tendency of the shafts to form a mass of osteophytes around the end of the stump. Why this is I do not know. It cannot be that the epiphyses lack bone-forming power, since epiphyseal fractures are notoriously prone to throw out large callus masses, and non-union in most epiphyseal fractures is almost unknown. The explanation may lie in the fact that the ends of the bone are not surrounded by large bodies of muscle, and that there is none of this nutrient muscular substratum for jagged bits of bone to grow into, no substratum for the formation of an ossifying myositis; for the osteophytes we see jutting out from the end of an amputated femur into the thigh muscles are nothing more nor less than an ossifying myositis of the end of the stump. Therefore, in amputations through the shaft, scrape off the periosteum, as recommended by Bunge, but where possible amputate through the epiphysis or exarticulate.

As to the soft parts: Muscular covering for the stump, no matter how we sew the muscles together at operation, is notoriously impossible to attain. The muscles wither and atrophy through lack of use. If, however, we can cover the end of the stump with tendons according to Wilms, sewing the opponent groups together, we shall have achieved two ends. In the first place we shall, in a great measure, have combated muscular atrophy by giving the muscles remaining in the stump work to do, one group of muscles pulling against the opposing group. In the second place we shall have provided for the end of the bone a hard, durable covering of tendons, which, slipping in newly-formed sheaths, make a bursa over the stump well calculated to resist pressure.

I have not plead for any particular form of flap. It is well to fit the incision to the individual case, to take skin and soft parts where they can be gotten, whether in front, in back or at the sides—anywhere so as to save material, merely taking care to plan the incision so that the scar will not fall over the end of the bone. Where the scar of the soft parts coincides with the bony one it tends to adhere and to ulcerate; it is easily pulled open by

[†] J. A. M. A., Vol. LXIII, p. 1149, Oct. 3, 1914.

the rubbing of an artificial limb and often makes end-bearing impossible.

The third post-operative requirement is that the stump be adapted to the wearing of an artificial limb. It is a pity that most surgeons know so little about the art and handicraft of the instrument-maker. Our lack of knowledge places us at his mercy. We can learn a great deal from him, and he can learn something from us. Traditions as to amputations have gone down among instrument-makers from generation to generation. Most of them do not recognize end-bearing stumps, and it is only by dint of the most obstinate insistence that we can overcome their hereditary ideas and get them to fit truly end-bearing sockets. Hitherto the fewest stumps were really end-bearing; it takes time to overcome what a workman has been generations in learning.

Appliance-makers view amputations at the middle and lower third of the leg with horror, because of their painfulness and tendency to ulcerate, they say. A. A. Marks & Co. of New York have issued a book that gives a good idea of the instrument-maker's views on this point. They, like the older surgeons, claim the so-called site of election—i. e., hand's-breadth below the knee—as the favorable place to amputate, and find all longer stumps of the leg painful, liable to ulcerate, non-end-bearing and difficult to fit with an artificial leg. Their views of course have been gleaned from experience with thousands of stumps, and the fault lies not with them, but with the surgeons who have sent them these unsatisfactory amputations in the lower half of the leg. I cannot agree with the ap-



Fig. 1. Showing looseness of the soft parts over the end of the stump.



Fig. II. Patient bearing his full weight on the end of stump.

pliance-makers as to the site of election; the site of election is as low down in the limb as is consistent with proper healing; other things being equal, the longer the stump the more power it will have in propelling the artificial leg. Provided we can make a painless stump, the longer it is the better.

The patient I have brought with me will show you, I think, that good results are attainable, even in low amputations. On December 1, 1911, his leg was amputated at the middle. Two weeks afterward he was walking about on a peg-leg, bearing weight on the end of his tibia. He has had no trouble whatever with his leg; the end of his stump is not tender to pounding or thumping, and is covered by a tough, callous skin which is freely movable over the end of the bone, and is separated from it, I think, by a bursa.

Another experience is amusing and instructive. On March 18, 1915, a man who had come to the San Francisco Hospital for reamputation of an ulcerated and tender stump, came back for a certificate. Reamputation had been performed December 5, 1914; by December 20 he was walking on a peg-leg with a good end-bearing extremity. A few days later he was discharged from hospital and lost sight of. He went to a maker of artificial

limbs and bought a leg without consulting anyone. He was furnished with a non-end-bearing cylindrical socket which bore the weight of the leg at the usual place—the tibial condyles. The man was not satisfied, so he got end-bearing on his own account by running a buckskin lashing back and forth through holes in the leg, so as to make a sort of net; on top of this he stuffed the socket with felt for his stump to rest upon, and in this way improvised for himself an end-bearing socket. The stump was entirely satisfactory.

Another point where surgeon and appliance-maker are at variance is in the question of how soon to apply an artificial limb. One cannot insist too strongly on the importance of bearing the future function of the stump in mind and working from the very beginning with this end in view. The limb should be applied early. A proper stump should be ready to receive a limb in from two to three weeks. The patient before you was up and walking two weeks after his amputation—that is to say, as soon as his wound was healed.

We owe the plan of after-treatment that makes this possible to Hirsch. Hirsch outlined a detailed plan of massage and exercises to fit the stump for its future weight-bearing function. The plan of treatment we have adopted at the San Francisco Hospital is as follows: In order to ease the pain of the first days after operation, to avoid the spasmodic contractions of the muscles and to relieve any tension on the flaps, we put on a Buck's traction reaching up the limb as far above the site of amputation as do any muscles that insert into the amputated bone. Thus, in an amputation at the ankle we apply adhesive plaster up to the hip, in order to relax the ham-string muscles inserting into the tibia. We elevate the limb and apply a weight of six-eight pounds. Three or four days after operation, as soon as the drains are removed, we begin to rub the end of the stump gently, increasing the force of friction daily. At the end of a week we begin to remove the sutures and dress the wound merely with a fine strip of gauze. Several times a day the weight is removed from the traction apparatus, the stump is massaged, and the patient instructed to press the end of it against the mattress. By ten or twelve days the wound is generally soundly healed and the stump will stand massage applied with considerable force. It is pounded and kneaded several times daily. Then a temporary plaster of paris peg is made for the patient, and at the end of two weeks he begins to stump about, at first with crutches and in a few days without them.

To outline, then, the plan of operation and after-treatment: I should say, amputate as low as you can, even if you have to form your flaps in an irregular manner. It does not matter much how they are formed, provided the scar does not fall over the end of the bone. If you can, do an epiphyseal amputation, or an exarticulation, or preserve part of the sole of the foot. If you must

amputate through the shaft, remove the periosteum and the marrow from the end of the bone. Avoid the use of the constricting bandage if possible, and control the bleeding by operating on the elevated limb. Pull the nerves out of the wound and cut them off high; bring the tendons over the end of the bone, sewing the opposing groups together; check all bleeding as carefully as you can and provide for future oozing by a small rubber tissue drain running from one angle of the wound to the other. Approximate the soft parts carefully. Dress the end of the stump with an antiseptic dressing—a strip of gauze moistened in camphorphenol and laid over the wound, and dry sterile gauze over this. Over this dressing put on a Buck's traction with adhesive plaster reaching high above the site of amputation and apply a weight of six or ten pounds. Remove the drain as soon as oozing has stopped, usually in one or two days. In three or four days begin with gentle massage. As soon as the sutures are removed increase the massage, knead the wound with increasing force and have the patient actively exercise the end of his stump. Get the patient up and walking in an artificial appliance at the end of the second or third week.

CONCLUSIONS.

- (1). To secure good immediate results:
 - (a) All amputation wounds should be drained to avoid collection of blood clots.
 - (b) The most rigid asepsis should be exercised.
 - (c) Freedom from post-operative pain (muscular spasm) and relief of tension should be secured by adhesive plaster traction.
 - (d) In septic amputations it is often wise to cut straight through close to the infected area and to take care of the stump secondarily by a proper reamputation.
- (2). Good final results entail a painless end-bearing stump suited to the application of prosthetic appliances.
 - (a) Pain in the stump is due (1) to neuromata, (2) to periosteal irritation, (3) to a weight-bearing scar.
 - (b) Neuromata can be made harmless by a high section of the nerve.
 - (c) With painful neuromata the nerve should be permanently blocked above the neuroma by an alcohol injection.
 - (d) Pain from periosteal proliferation and irritation can be avoided by: (1) epiphyseal amputations, (2) osteoplastic procedures (Pirogoff, etc.), (3) exarticulations, (4) aperiosteal amputations (Bunge).
 - (e) The scar should not fall over the end of the bone.
 - (f) Atrophy of the muscles of the stump should be avoided by suture of the opposing tendon-groups.
 - (g) End-bearing should be secured by early massage, by early use of the stump, and by early application of the artificial limb (Hirsch).

CLINICAL RECORDS.*

II. BLANK FORMS.

By EUGENE S. KILGORE, M. D., San Francisco.

The most common fault which we have found with various hospital forms for clinical use is over-complexity. It usually happens that the one who is planning a system of history sheets, in his zeal for thoroughness, feels a strong desire to set aside definite spaces for a large number of important facts which should appear in the history, physical examination and laboratory notes; the impression being that printed headings will prevent things being forgotten and will make for completeness. It is our experience that printed headings and spaces for recording clinical facts are useful if they are limited in number and well chosen; but that it is very easy to get too many of them. Nurses and clinical clerks will not do thorough work merely because a certain number of blank spaces are before them to fill in; and unless other adequate forces are operating to promote enthusiastic and painstaking work, an elaborate system of headings and spaces, if it is heeded at all, inevitably leads to perfunctoriness. Moreover where there exists the intelligence and industry requisite for good clinical work and good records, printed forms and spaces if too extensive stand in the way. Elasticity is essential, and a good account of an illness or of abnormal physical findings as a rule cannot be "filled in" on a printed form. The principle is the same for clinical records in private practice, and we do not see how physicians who wish to keep careful records of their cases can get along with the case history forms which they are usually asked to buy—papers on which there is so much printing as to leave scarcely any room for writing.

In the University Hospital a compromise has been adopted between the type of record without headings and that with many headings. Plain ruled paper with binding margin and a narrow column for dates is used for the history and physical examinations and later notes, as well as for many of the laboratory reports, while printed forms are used for the title page, the graphic sheet, the treatment record, and the more routine laboratory procedures. There are good reasons, we believe, for printing a considerable number of items on the title page and the graphic chart.

I. *The title page* is shown in Figure 1. Most of the items are obvious, and only the following need be mentioned:

(a) *"Alternative spellings of name."* It has often happened that when a woman re-enters the hospital after changing her name by marriage the two records of her case are never connected. Also among certain classes it is not uncommon for a family name to be spelled in two or three different ways. It is important that such variations be made clear on the record so that cross reference filing cards will be properly filled out in the record room.

* Second article describing the clinical record system in the University of California Hospital. An article by Dr. J. L. Whitney and one by the writer on related subjects appeared in the Boston Medical and Surgical Journal of November 18, 1915. Reprints of the series when completed, together with record forms, etc., will be sent on request.

(b) *Address.* For the success of the follow-up system it is essential that the admitting clerk secure as carefully as possible addresses where it will probably be possible to reach the patient sometime hence. Addresses of friends should if possible be different from the patient's, and a business address of an employer is an advantage as well as the address of the patient's physician. These addresses are to be used later when letters to former patients are returned. Employers' addresses may also be useful in occupational investigations.

(c) *Race.* In order to make possible in future much more thorough researches in regard to race and disease, this item is amplified and a serious attempt is made to record accurately all the obtainable facts. Patients who cannot give the racial extraction of their parents are urged if possible to obtain the information from their families and to communicate it later for inclusion in the hospital records. Here it may be said that these items on the title page are not to be entrusted to nurses or interns to record. One person, who occupies a permanent clerical position in the hospital, should be responsible for the filling out of this title page for every case. When patients are admitted during the absence of this clerk from the office they are to be visited later and the admission data confirmed. Without such centralization of responsibility it is hopeless to get even names and addresses uniformly correct and legible. In order to inquire intelligently in regard to race the admitting clerk should refer frequently to a standard text on the subject.

For the same reason it would be an advantage to have a description of occupation and social data recorded by one person. This person would, of course, require special training, and until the hospital organization permits the employment of a social worker who can take this responsibility completely, these items have been included in the intern's history outline. (See previous article.¹)

(d) Considerable space is set aside for diagnoses, for the reason that many subsidiary diagnoses are recorded. (See article on Diagnosis Nomenclature by Dr. J. L. Whitney.²) The diagnoses are to be signed.

(e) The follow-up system for securing end results, to be most efficient, requires active co-operation between the clinical staff and those in the record room. Before patients leave the hospital they are to be made to understand our efforts to see them later, and the special advantage this will be to them as well as the advancement of medical science. Often the resident can make a definite appointment for the patient to see him at some time in the future; and this date and the doctor's name being written in the spaces indicated on the title page, the record clerks at the proper time will send a letter reminding the patient of his appointment with Dr. Blank. Follow up letters containing this personal element secure much better results. If the patient is not to return until after the staff has changed, it is advisable to write down for the benefit of the one who later sees the case the items particularly desirable for him to take note of.

One year is the usual time between the patient's

UNIVERSITY OF CALIFORNIA HOSPITAL

Name Doc, John Judson Age 27 Sex S Race C Service Med. Hospital Number 9284
 Maiden name or alternative spellings of name Judson Doc Race of Father (fractional constituents if possible) 3/4 English & Dutch Date of admission or transfer Oct. 25, 1915
 Birthplace London England Race of Mother (fractional constituents if possible) 1/4 English Date of discharge or transfer _____
 Permanent address 682 California St., San Francisco
 Relative (what relation?) or friend most likely to have permanent address Geo. C. Molton (uncle) Address (Different from patient's if possible) 28-8th Ave. San Francisco
 Relative or friend (Employer if possible) H. A. Harris & Co. Address 428 Mission St., S. F.
 O. P. D. Number 2834 By whom referred Dr. A. C. Smith Address _____

Admission diagnosis

Main Diagnosis and Complications. (For each diagnosis give condition when discharged, i. e. well, relieved, not relieved, not treated or dead.)

Rheumatic myocarditis not relieved.
 Broken compensation well
 Premature contractions

Coincident Diagnosis and Complications.

Varicose veins not treated
 with indolent ulcer of leg — relieved
 Inguinal hernia not treated

(For pre-operative and pre-autopsy diagnoses see special sheets. These diagnoses are final.)

Signed

Date to report Oct. 28, 1916 Dr. resident General condition General condition
 Whom to see _____ Items particularly desirable to include in subsequent reports _____

Form of Admissions: (Services and numbers) Surg. 1965 Med. 2817

Subsequent Admissions. (Services and numbers)

Transfer

BLOOD

Date	%Hb. (Instrument =)	R. B. C.	W. B. C.	DIFFERENTIAL					No. Cells counted	Parasites	REMARKS (Record if reds are abnormal, if platelets seen increased or diminished, etc.)
				Neutrophils	Eosinophiles	Basophiles	Lymphocytes	Large Mon. and Transits			
Oct. 28	75	4,560,000	7,000	62	2	0	30	6	200	0	Slight achromia.

URINE

Date of voiding single spec. or of beginning to collect 24 hr. sp.	Amt. (c.c.)	Sp. Gr. 1000 and	Re- action	Albumin % *	Sugar % †	MICROSCOPICAL	
						Casts	Cells
Oct. 29 ss		20	ac.	ST.	0	few hyal.	few leuc.

*Qual. meth. = Nitric acid Quant. = _____ †Qual. meth. = Fehling's Quant. = _____

Fig. 1. The title page.

discharge and the first attempt to get a report. But in many cases it is desirable to see them earlier; for example, a benzol treated case of leukemia should return for frequent blood examinations; a syphilitic should return in a short time

for another Wassermann test; a patient who has had an abdominal exploration which did not satisfactorily explain his pain should be followed more closely than once a year.

Naturally there is a limit to the number of cases

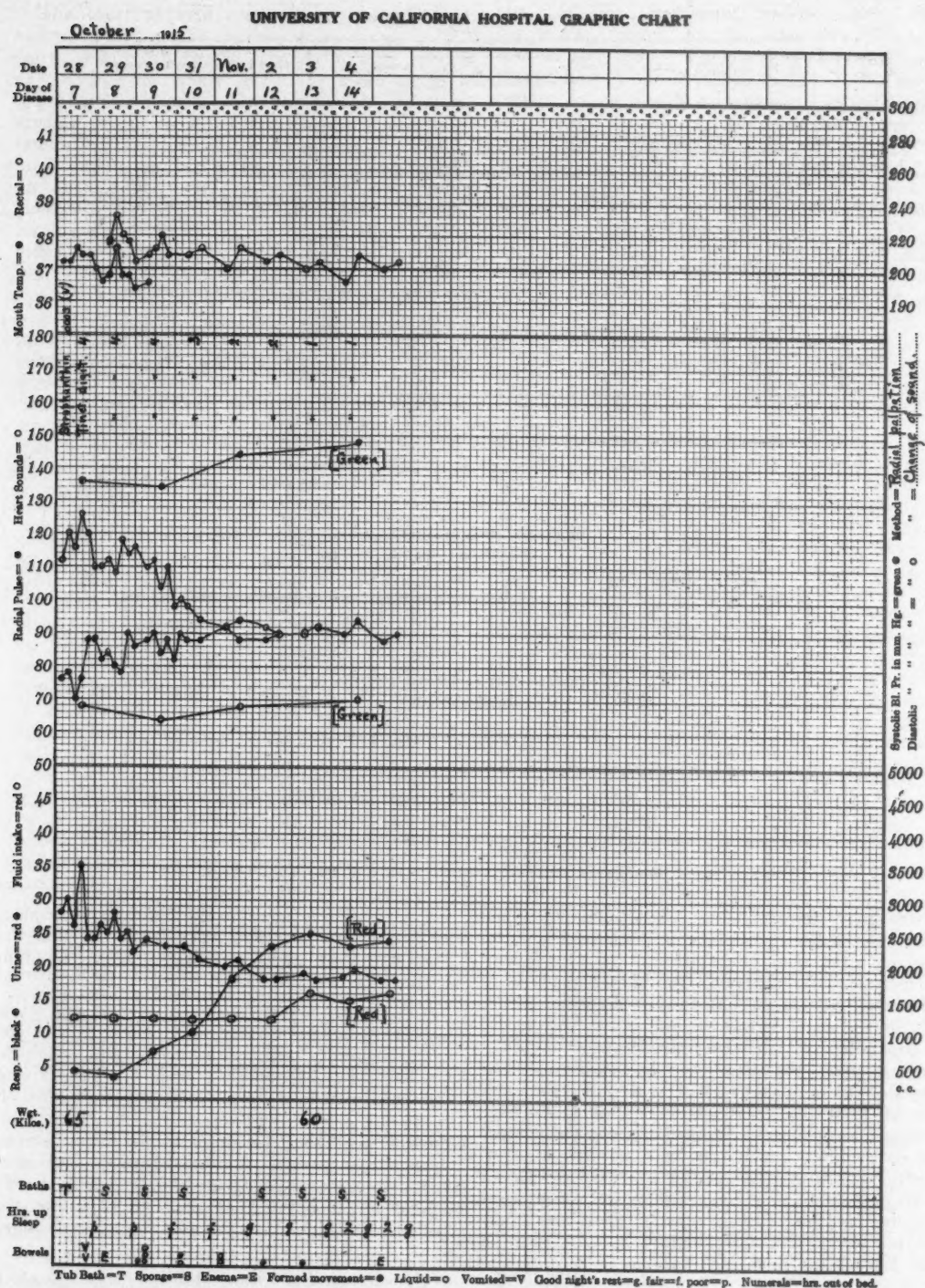


Fig. 2. The graphic chart.

UNIVERSITY OF CALIFORNIA HOSPITAL

Name		Ward		Bed		Hospital Number			
BLOOD									
Date	% Hb. (Estimation)	R.B.C.	W.B.C.	DIFFERENTIAL					REMARKS (Record if reds are abnormal, if platelets seem increased or diminished, etc.)
				Neutrophils	Eosinophils	Basophils	Lymphocytes	Large Mon. and Triabul.	
URINE									
Date of voiding single spec. or of beginning to collect 24 hour spec.	Amt. (c.c.)	Sp. Gr. 1000 and	Re- action	Albumin % *	Sugar % †	MICROSCOPICAL			
						Casts	Cells		
* Qual. meth. ————		Quant. ————		† Qual. meth. ————		Quant. ————			
SPUTUM									
Date	Character		Tubercle Bacilli	Other Organisms		Cells, Elastic Fibers, Crystals, etc.			
FEACES									
Date	Character		Blood Ins. Qual.	Fat	Fascicles or Ova	Bacteria	Other		
UNIVERSITY OF CALIFORNIA HOSPITAL TREATMENT RECORD									
Name		Ward		Bed		Hospital Number			
DATE	ORDER			P.R.N.	NURSES' REMARKS				
UNIVERSITY OF CALIFORNIA HOSPITAL DIET RECORD									
Name		Ward		Bed		Hospital number			
Date	Hour	ARTICLE	Grams Total	GRAMS			Calories		
				Proteid	Carbohydr.	Fats			
						Salts			
						Fibrids			

* Figures obtained by weighing of food actually eaten are checked.

Fig. 3. Blanks for laboratory reports, diet and treatment record.

that can be seen frequently by the house staff, and the great majority of patients discharged will, of course, make their later visits to the Out-Patient Department. By keeping in mind the needs of the house records the Out-Patient Staff can render valuable assistance by sending in to the record room notes of interesting developments in cases seen by them that have been in the house. The rush of an out-patient clinic will not permit this unless it is made easy for them, and we have adopted the plan of having blanks for the purpose in each clinic, which can be filled out and collected with the out-patient cards. If the out-patient man has barely time enough to write the patient's number and the date on one of these blanks the record clerks will later collect it, will look up the out-patient note for that day and transcribe it to the house record. It must be admitted that an out-patient staff will not supply a great deal of this data without pretty persistent prodding.

The follow-up system will be mentioned again in connection with the work of the record room.

(f) The references to former and subsequent admissions and transfers make it easy to find the complete record of a case which may be bound in several different volumes.

(g) Spaces for two each of blood and urine examinations are provided here merely to save the extra laboratory page in the many cases which do not have more examinations made. While striving for completeness, a scarcely less important item in promoting actual usefulness of the records is compactness and the avoidance of too many sheets. Economy in paper, printing, binding and fire-proof storage are also favored by condensation. It is economy to buy a good grade of paper for the history and printed forms and to use both sides of it.

II. *The graphic chart* (Fig. 2) is lithographed on the back of the title sheet. (Charts with blank backs are provided for continuing the graphic records after the first one has been used up.) Lithographing produces much finer and more accurate lines than ordinary ruling and, considering the

number of lines here desired, it has been found practically no more expensive.

The chart as here presented is the result of numerous attempts to concentrate so far as is consistent with clearness and accuracy a large amount of clinical data where it can be taken in at a glance and compared. Ordinarily there are seven graphic curves on the chart,—temperature, pulse, respiration, systolic and diastolic blood pressure, fluid intake and urine excretion. These curves are distinct when green dots are used for systolic blood pressure, green circles for diastolic, red dots for urine and red circles for fluids. Black circles instead of dots are used for stethoscopic counts of heart rate and for rectal temperatures. On the right the method employed in taking blood pressures is recorded in each case. At the bottom are spaces for recording patients' weights, baths, solid or liquid bowel movements, vomiting, quality of night's sleep and hours out of bed. One or two blank columns are reserved for special items such as repeated measurements of lung capacity, strength tests, urea content of blood, etc., which it is desired to show in connection with the other data on the chart.

The chart is divided into spaces for twenty-one days which allows about the ordinary daily space for a "b. i. d." graphic chart. By fine vertical lines, however, each daily space is subdivided into six small spaces of a little over one millimeter each, which represent four-hour periods. Nurses use moderate sized dots and place them accurately on these fine lines, the hours to which they correspond being printed at the top of the chart. It is thus possible in fever cases to use the chart for four-hourly records without increasing the space ordinarily allowed for the twice-a-day record. The sense of proportion on the chart is thereby preserved and in cases of great duration the four-hour record can be preserved in toto. Such charts are pasted together end to end and folded; vertical red lines separating weeks are a convenience.

Nurses who are used to inscribing large dots far apart object to this careful work at first. Once accustomed to it, however, they are invariably pleased, are more painstaking, make very much better looking charts than formerly, and have to recopy them less often.

In the occasional case when temperatures are taken oftener than every four hours, the numbers at the top representing hours are crossed out and replaced by others, two or more large spaces being used for one day.

III. *The Laboratory Sheet* (Fig. 3, first four forms). The advisability of using such a sheet is debatable, and some of the hospital staff would prefer to have urine and blood as well as all other examinations entered in chronological order with other clinical notes. The advantage of the blank, however, is appreciated in cases where many examinations of one kind are made; it being much easier to run the eye down a column containing a dozen reports of hemoglobin or albumin percentages or guaiac tests than to hunt in a dozen different places for those results. For this reason we use a

laboratory sheet for reporting the three or four examinations most likely to be often repeated. On one side blood and urine are each given space for twelve reports, on the other are reports of sputum and feces. To guard against incompleteness, which is the principal danger in the use of printed forms, provision is made for recording such additional facts as (1) the instrument used for measuring hemoglobin, (2) number of cells on which the differential leucocyte count is based, (3) more accurate specification of the dates of urine specimens, (4) methods used for qualitative testing and quantitative determination of albumin and sugar, (5) methods used in testing for occult blood. When more space is required, as in describing an abnormal blood smear, more lines are used, or reference is made to an extended description in the body of the record.

Diabetics and special blood cases are given charts for showing graphically their progress; and blank paper suitable for charting is kept for miscellaneous charts, e. g., salt excretion, etc.

IV. *The Order Sheet* (Fifth form in Fig. 3,—same ruling on both sides of sheet). Orders for all medicines and treatments are written by the house staff on one of these sheets separately for each patient; thus giving a permanent treatment record in the physician's own hand to be bound with the history. Nurses check orders when they have taken cognizance of them, and in the case of single doses or treatments give the time when they are administered. Other remarks sometimes entered are "refused," "vomited," etc. "P. r. n." orders are each designated by a letter placed in a column for that purpose; and whenever such an order is used by the nurse she makes a record of the fact by writing on this order sheet the designating letter and the time. Nurses rule a vertical line through all orders that are finished, so that the eye can take in at once the "live" orders, and there is no necessity for keeping a separate list of standing orders. Except in the occasional case of verbal orders at night, which should be signed in the morning, nurses are to be strictly forbidden to fill orders which are not written on the order sheet.

When these sheets first replaced the customary ward order book fears were expressed that orders would be overlooked by nurses. To obviate this, interns whenever entering an order write also the patient's bed number on a pad for the purpose on the nurses' desk. During our three years' experience with individual order sheets we have not once heard complaint of orders being missed from this cause.

V. *The Diet Record sheet* is ruled on both sides in the manner shown by the bottom form in Fig. 3. It is used for cases of diabetes and others in which it is desired to keep accurate records of food intake. Nurses weigh separate articles of food while serving them on the same plate, using the convenient little Chatillon scales for the purpose.

In addition to these five forms two others of great importance in the cases which require them

are the operation record and the sheet for clinical and autopsy diagnoses.

The operation report provides several lines at the top for pre-operative diagnoses and signatures. Members of the surgical, as well as other staffs who study cases before operation, are to write their diagnoses over their own signatures before operation. For example the medical service will keep these blanks on hand, and before transferring a patient to surgery will write their diagnoses and send this sheet with the patient to the surgical ward. A chart is then provided on this sheet for recording pulse, respiration, blood pressure, etc., during anesthesia; the usual facts in regard to the amount of anesthetic used, time of beginning, duration of operation, etc., are recorded in connection with this chart. Then follows space for notes on the recovery—pain, vomiting, etc. The back of the chart is for a description of the operation, the only definite spaces set off being one for description of organs explored during the course of the operation and one for recording the names of the operating crew including nurses.

The clinical and autopsy diagnosis blank is an important means of securing definite correlation between clinical and autopsy findings devised by my colleague, Dr. J. L. Whitney. The feature about it which makes it actually secure the hitherto elusive *written* pre-autopsy diagnoses by the clinicians is the permit for autopsy which is on the sheet. The superintendent does not sign this permit until the sheet is presented to him properly filled out with the clinical diagnosis in great detail and a short résumé of the essential features of the case for the benefit of the pathologist. The pathologic diagnoses are later typewritten under the clinical diagnoses (both of these on the front of the sheet) and the pathologist marks the clinical diagnoses which were found to be correct, those wrong, those doubtful, and the autopsy diagnoses missed by the clinicians. On the back of the sheet beneath the clinical résumé the pathologist makes remarks on any of the clinical findings which did not find satisfactory explanation in his autopsy diagnoses. This sheet is bound with the clinical records.

References.

- 1 Kilgore, E. S.: Last number of this Journal.
- 2 Whitney, J. L.: Boston Medical and Surgical Journal, November 18, 1915.

THE APPLICATION OF ANOCI ASSOCIATION TO OBSTETRICS.*

By CARL L. HOAG, M.D., San Francisco.

The present furor about "twilight sleep" has brought great pressure to bear upon the conscientious physician who does not feel justified in using a procedure which entails such risks. Recognizing the general demand for the more extended use of anesthetics in labor, he will doubtless welcome any method which secures this end without too much danger to mother or child. This consideration has prompted me to report the following procedure without awaiting the accumulation of a large number of cases. As will be seen, the method is not new in itself but is the application of a now

well accepted principle to this new field of obstetrics.

Three years of trial in the surgical field has firmly established the efficiency of anoci association in the reduction of shock and distress, with a corresponding decrease in the time of convalescence. It has already done much in removing the fear of operative procedure from the lay mind. The principle objection has come from the surgeon because muscular relaxation under nitrous-oxide-oxygen anesthesia is very much less complete than that previously secured by the use of chloroform or ether. Only those have achieved the best results who have fully realized that the nerve blocking accompanying this light anesthetic must be fully as complete as that necessary for operations under local anesthesia alone.

During the past year nitrous-oxide-oxygen analgesia has been used in obstetrics by a number of men—notably Webster¹ and Lynch² of Chicago—with marked success. No untoward effects have been noted on either mother or child. Lynch states that uterine contractions are usually increased. He makes no statement, however, as to the degree of relaxation of the perineum as compared to that usually secured when chloroform is used. If there be any serious objections to the use of nitrous-oxide-oxygen anesthesia in labor it will probably arise at this point. After our experiences in abdominal surgery we cannot expect to see that relaxation of the vaginal outlet which is so essential in preventing severe lacerations. It occurred to me that the same cocainization of the muscles which brings about adequate relaxation of the abdominal wall when anoci association is well carried out should not only overcome this objection but might bring about a distinct advance in obstetric practice. Just as the local anesthesia has made the use of gas-oxygen possible in surgery, the same procedure may make it the anesthetic of choice in labor.

The following case will illustrate the feasibility and distinct advantages of this method:

Mrs. T., aged 22, primipara, confined April 11, 1915, when three weeks overdue. She was a well developed, well nourished woman and labor progressed normally; first stage nine hours, second stage forty-five minutes. Toward the end of the first stage nitrous-oxid and oxygen analgesia was begun by Dr. Harry Tuckey, using a new Teter apparatus. The gas was shut off between the bag and nose piece between pains, so little was lost. Experiencing no pain, the patient worked very well and absolutely at my direction. Just before the head began to dilate the perineum, I turned back the vulval edges and injected the levator ani muscles and perineal body very thoroughly with one-half of one per cent. novocaine. About 20-30 c.c. were used. The effect was striking. The outlet soon relaxed and became very flabby, and when distended by the oncoming head (R. O. A.) dilated readily without the least sense of pain or the increased effort on the part of the patient that we usually see. The head was delivered as easily as if she had been under the surgical degree of chloroform, and without other than a small mucous laceration. The oxygen was then immediately turned on and, as the cord was still pulsating, the baby—then slightly cyanotic—cleared up like magic, became very red and began

* Read before the Pan-American Medical Congress, June 18, 1915.

to cry spontaneously. The placenta was delivered by the Credé method, likewise under gas.

About 100 gallons of nitrous-oxid and 30 gallons of oxygen were used over a period of one hour. The amount of novocaine was about one grain. Many times that amount is not toxic and could have been used if necessary to secure complete relaxation.

The striking points are:

(1) The delivery without pain, thus insuring better co-operation between the patient and accoucheur.

(2) The greater efficiency of the uterine contractions which shorten the time of labor.

(3) The absence of muscular spasm and rigidity of the perineum due to the blocking of pain reflexes by the local injection, thus permitting slow and gradual dilatation under perfect control. This great advantage cannot be secured by general analgesia alone.

(4) The fact that oxygenation of the mother has an immediate effect upon the child, clearing up any cyanosis that may be present.

Local infiltration of the perineum, besides securing relaxation and anesthesia, also allows of episiotomy at any moment when a laceration seems unavoidable. Following delivery, this incision or any laceration that may result, can be painlessly repaired without prolongation of the general anesthetic.

The anesthetic effect of novocaine is transient and is usually maintained only for thirty or forty-five minutes. In prolonged cases either a secondary blocking can be done when the head recedes, or the original injection of novocaine can be immediately followed by quinine urea as in surgical anoci.

The effect of nitrous-oxid and oxygen on the child has been too well tested by Webster, Lynch and Woodyatt to need discussion here, but we know much less about the effect of novocaine upon the fetus. The amount actually absorbed and reaching the child through the blood stream prior to delivery must be very small and a quantity not greater than that safely used in numerous cases of Cæsarian section under local anesthesia.

Whether injection of the cervix will prove of sufficient advantage to justify the added risk of infection is doubtful. At present it does not seem advisable.

There are no dangers in infiltration of the perineum from sepsis or otherwise. The needle is inserted through the vaginal mucous membrane which offers a practically sterile field. Hematoma seldom, if ever, develop. Any edema produced by the solutions is quickly absorbed. Repair of tissues is not retarded.

In conclusion, it is my belief that the use of anoci association, that is, the combined use of nitrous-oxid-oxygen analgesia with local infiltration of the perineum, offers a safe and efficient method of conducting labor. It is a logical procedure founded on established principles, apparently free from danger to either mother or child and sufficiently simple to be within the scope of general use.

References.

1. Webster. Jour. Am. Med. Assoc., 1915, lxiv, p. 813.
2. Lynch. Ibid., p. 812.

THE TREATMENT OF CONGENITAL SYPHILIS.*

By HANS LISSER, A. B., M. D., San Francisco.

(Medical Clinic, University of California Medical School.)

When one has the opportunity of seeing large numbers of luetic patients, that drift in from widely scattered sources, a large number of whom have already received some specific medication, it is somewhat disappointing to note how varied, and unsystematic the majority of such treatment proves itself to be. Some of these failures are unquestionably to be referred back to the individual patient, who is either too ignorant to comprehend the necessity for vigorous long-continued treatment, or unwilling to follow the earnest advice of his physician. Despite these extenuating circumstances, and the deceptive promises of quacks, a goodly amount of rather haphazard treatment must be admitted by the profession itself. This is somewhat surprising in view of the extraordinary efficacy of the remedies at our command. And yet this very brilliance of result is occasionally a stumbling block, the patient regaining his health so rapidly that he firmly insists he is cured. The treatment of *acquired* syphilis, has become for the present at least, quite standardized. The combination therapy of old salvarsan, and mercury salicylate injections with the judicious use of the iodides is, if properly administered, almost ideal. It is certainly eminently satisfactory.

The situation is not so simple when we come to the treatment of congenital syphilis. Although the drugs employed, namely salvarsan, neosalvarsan, mercury and iodides, are precisely those used for acquired lues, their exhibition and administration are often quite different, varying according to the age of the patient and the character of the disease. Nor is it as clearly understood how long such treatment should be continued.

Before considering the actual treatment of congenital luetics, it might be well to note the prophylactic measures at our disposal. These comprise first, thorough treatment of syphilitic patients before marriage; second, preventing conception in syphilitic individuals who are already married, during that period of the disease when transmission to the offspring is most liable to occur; and third, thorough treatment of the pregnant mother before the birth of the child. That there would be fewer cases of congenital syphilis if infected parties postponed marriage until they had had sufficient treatment, is quite obvious, and as this problem resolves itself into the proper treatment of *acquired* syphilis it needs no further comment here. It is likewise apparent that married persons known to have the disease in its active stages should be warned that a child of theirs may inherit the disease, and it is accordingly fitting and proper that they take reasonable precautions to prevent conception. Both these measures, however, are beyond the control of the physician. Patients will marry before they should and have children when they should not. But once a pregnancy has occurred, where either mother or father is known to be luetic, it is incum-

* Read before the San Francisco County Medical Society, August 3, 1915.

bent upon the physician to institute most energetic treatment of the pregnant mother in the hope of preventing a syphilitic child. Such treatment of the pregnant mother differs in no way from the routine treatment of acquired syphilis. It consists in the intensive use of mercurial injections, the iodides, and the intravenous administration of old salvarsan—"606." The latter is preferable to neo-salvarsan, as it is now generally conceded to be more potent. It is probably wiser, if the treatment is begun during the early months of pregnancy, to employ frequent small doses of salvarsan, 0.2 to 0.3 to 0.4 gram rather than the full dose, although it has been shown that salvarsan does not seem to increase the tendency to abortion or hemorrhage. But the total amount of salvarsan should be at least 1.5 gram, and larger amounts are safer.

Such treatment affects the fetus favorably by its curative action on the mother, and in the early stages especially, by preventing disease of the placenta. Furthermore, Meyer¹ has shown in the case of salvarsan, that whereas a normal, sound placenta does not allow arsenic to permeate, the syphilitic placenta does permit the drug to pass through to the fetus.

Findlay and Robertson² in a recent issue of the *Glasgow Medical Journal*, record several successful examples of such antenatal therapy. "In no case was the course of the pregnancy interrupted, and the mothers did not seem to suffer much from the treatment. The mothers, as a rule, expressed themselves as feeling better during these than during any of their previous pregnancies." So far as their experience goes, equally good results were obtained whether treatment was commenced as early as the second month or delayed till the seventh month of pregnancy. "This in all probability is to be accounted for by the fact that many syphilitic infants are infected during parturition, the mischief remaining local in the placenta during the whole course of gestation. It is this uterine localization of the disease which accounts for the absence of clinical manifestations in many of the mothers of syphilitic children. Baisch, Trinchese, and Weber³ working in Döderlein's clinic, found that in the case of every syphilitic child the placenta, both the fetal and maternal portions contained spirochetes, and in common with Rietschel⁴ are inclined to the opinion that the spirochete always travels to the child from the placenta. Most authorities agree that during gestation the spirochete may travel along the umbilical cord and infect the fetus, but this according to Rietschel is less frequent than infection by emboli set free during parturition. It would therefore seem exceedingly likely that in the treatment of pregnant women the salvarsan gets easily at the very vascular placenta and destroys the contagium vivum, thus considerably lessening the risk of embolism from living spirochetes."

It is interesting to compare the statistics of such antenatal therapy with the results of no therapy at all. With no treatment of maternal syphilis at all, the primary mortality of congenital syphilis is enormous. In the first year of life, Leduc estimates it at 71%; Zeissl at 80%; Bunch at 90%; Markus

at 90%. Hochsinger claims that 93% of syphilitic children have disease of the nervous system.

According to Galliot,⁵ when mothers are treated before pregnancy, but not during pregnancy, 82% of the resulting children are born dead.

Mercurial treatment of the pregnant mother has the following results to commend it: Of 217 infected pregnant women showing signs of active syphilis during their pregnancy, who were vigorously treated with mercury and iodides during their pregnancy, 25% of the resulting progeny were born alive, of whom 10% showed signs of syphilis. This is at once a striking improvement over no treatment at all.

Of 163 pregnant infected women, without signs of active lues, so called latent lues, who likewise were vigorously treated with mercury and iodides during their pregnancy, 66% living children were born who were well clinically; 14% were born alive but showed signs of congenital lues, and 19% were born dead. Pinard,⁶ Champetier de Ribes,⁵ and Potocki⁸ by prolonged treatment with mercury and potassium iodide obtained 76% of the children healthy.

Of 128 women with latent lues, who were treated before and during pregnancy with mercury and iodides, 88% living children, clinically well resulted, the remainder showing signs of syphilis. These statistics are surely a strong argument in favor of the thorough treatment of the disease (Galliot).⁵

But the effect of mercury unless long continued is fleeting. This is illustrated in an astonishing manner by the following case reported by Fournier (Meyer).¹ A syphilitic woman was pregnant 11 times. She had no treatment whatsoever during the first seven pregnancies, and the result was seven dead luetic children. During the eighth and ninth pregnancies, energetic mercurial treatment was given, and the result was two healthy children. No treatment was taken during the tenth pregnancy and again a luetic child was born dead. Treatment during the eleventh pregnancy was successful in bringing forth a healthy child. Fournier concludes: "So powerful yet so fleeting is the effect of mercury that, if it were not immoral, I would like to try the experiment of alternately treating and not treating a syphilitic mother, and alternately bringing into the world healthy and syphilitic children."

When salvarsan is combined with such mercurial therapy, the following remarkable results are obtained: Sauvage⁶ reporting 93% and Bourret and Fabre⁶ 100% cures. These latter statistics may be somewhat enthusiastic, for it must be admitted that many cases showing congenital syphilis after reaching six to 20 years of age, show no specific manifestations whatsoever during the first few years of life. Most of the cases reported were only observed during the first few months or first year of life, and are therefore subject to this reservation. Nevertheless, it would seem that this method of antenatal therapy has much to support it and merits extensive trial.

Another prophylactic measure suggests itself. Supposing an apparently healthy child with nega-

tive Wassermann and negative luetin, is born from parents known to have active syphilis. In view of the fact, above mentioned, that luetic stigmata do not develop in certain cases until long after infancy, would it not be prudent to administer small doses of mercury intermittently to such a child during the first few years of life? In reasonable quantities such therapy would not be harmful. It might be beneficial. It is almost impossible to bring facts or statistics in favor of such a procedure, for the unanswerable criticism can always be advanced that the particular child so treated may never have developed syphilis anyway. But when one bears in mind the extraordinary obstinacy of just those cases where the disease makes its appearance late in childhood, it would at least appear to be an error on the side of safety to prophylactically treat such infants, the progeny of parents recently tainted with syphilis.

THE SPECIFIC TREATMENT OF CONGENITAL SYPHILIS.

A.—Old salvarsan. Old salvarsan, unfortunately, has not the wide application in congenital syphilis, that it has in the acquired form, not because it is less efficacious but because of the difficulties of administration. Even in acquired syphilis its intramuscular use has been largely abandoned, the pain resulting from the injection and the necrosis and sloughing that not infrequently supervene are very serious objections; and in children the delicacy of the tissues should absolutely prohibit its use in this way. However, old salvarsan can and should be used intravenously whenever there is a vein of sufficient size at the bend of the elbow. I purposely restrict its use to the site mentioned, because experience so far seems to be against the administration of the drug in concentrated form. It should be well diluted and the consequent large amount of fluid to be injected must be allowed to flow into a vein in a position where the flow can be easily controlled. The jugular vein has been used and likewise the veins of the scalp, but whereas these routes are excellent in the case of neosalvarsan where highly concentrated solutions can be used and the operation quickly finished, it is difficult to keep the child quiet enough for a sufficiently long period of time to permit the steady flow of 50 to 100 cc. as is the case when old salvarsan is used. In view of the frequency of these injections it does not seem advisable to anesthetize the child, particularly when other efficacious drugs are available. Old salvarsan should only be given intravenously, and only into a vein of the forearm. Its dosage must be regulated according to the age and size of the patient, and the first dose should always be exceedingly small. Even in the adult, there is a growing tendency to use smaller individual doses, especially the initial dose; that is from 0.2 to 0.4 gram instead of 0.6 gram. It is evident that much greater caution is necessary in young children; 0.01 gram to every kilo or $2\frac{1}{4}$ lbs., is a safe average. It is probably a safe custom to place such children in a hospital over night, though recently I permitted a child of 12 to go home after receiving 0.35 gram of the drug. In the com-

paratively few cases where old salvarsan can be used, the results are highly satisfactory. Just as in acquired lues, mercury should invariably be used in combination with the salvarsan. Neither alone is as reliable as both together.

B. Neosalvarsan. Neosalvarsan has a wider field of usefulness in congenital syphilis than in the acquired form and for the following reasons: Its use in acquired lues is largely a matter of convenience, and can be entirely displaced and should be displaced by the more powerful effect of old salvarsan. But in inherited lues it is invaluable because of the high concentration in which it may be injected. It can be employed in two ways: first, intravenously, using the veins of the scalp, as first suggested by Noegarrath⁷ in 1911. This is the method of choice in infants up to about two years of age. Simpson and Thatcher⁸ in 1913 advocated the use of the external jugular, but in the technic they describe, an anesthetic is necessary, the vein being cut down upon and a cannula inserted. Such a drastic procedure was justified at the time when it was thought that one large dose would cure the disease, but since experience has demonstrated the necessity of frequently repeated injections, it would be wiser to use other methods at our disposal. By utilizing the veins of the scalp, neosalvarsan can be given in 3 or 4 cc. of saline or freshly distilled water in an ordinary Record or Luer syringe, and in a very few minutes. This ease, convenience and speed of administration has much to recommend it. The initial dose should be calculated from 0.015 gram per kilo; that is about 0.05 gram for a new-born infant, gradually increasing in successive doses to 0.2 or even 0.3 gram per injection. This dosage has been used with safety and success. Slight reactions such as vomiting, diarrhea, and occasionally fever will result, but no more so and no more serious than occurs frequently in adults.

The other method of administering neosalvarsan was first recommended by Wechselmann,⁹ and has not gained the recognition it deserves. I refer to the so-called epifascial method of injection, and applies especially to those children between the ages of 2 and 7 who have neither veins of the scalp for intravenous neosalvarsan or veins of the forearm for old salvarsan. Wechselmann employs it in his routine treatment of adults, never giving neosalvarsan intravenously but only epifascially, reserving the veins for old salvarsan. The technic requires some practice, but once learned, is really very simple, quick, and convenient. He found that intramuscular and subcutaneous injections were exceedingly painful, but that a space existed between the two, just above the gluteal fascia which proved to be an excellent depot for the drug. He gives the following detailed directions which must be scrupulously observed in order to obtain satisfactory results. First, the needle is inserted and the point moved in a pendulum manner back and forth. If just over the fascia a scratchy grating sensation, sometimes audible, usually palpable is transmitted to the needle as the point scrapes over the fascia. In children this is more difficult to determine because of the greater delicacy of the

fascia, and Kern,¹⁰ reporting on the use of the method in children, states that it is not obtained in many instances. Second, a rotary twist is given the needle along its perpendicular axis in order to be certain that it is quite free and not entangled in a nerve, blood vessel or connective tissue bundle. It should be freely movable. Third, one cc. of sterile salt or water in a Record or Luer syringe is injected. The piston should require only the lightest pressure to force the fluid in. Fourth, the syringe is removed and the salt or water should immediately regurgitate through the needle, indicating that it is next to the fascia. If these conditions are fulfilled the neosalvarsan is then injected. As high concentrations as 100% can be used, so that in infants doses of 0.05 to 0.1 gram neosalvarsan are dissolved in 0.2 to 0.3 cc. of fluid. A syringe of 0.5 cc. capacity divided into ten parts is useful for this purpose. I had the opportunity of seeing these injections in Wechselsmann's clinic and of examining the buttocks of the patients for induration, abscess or sloughing. These were adult patients and I heard no complaints and detected no infiltrations. It would seem to be a very useful addition to our means of treating congenital lues and deserves extensive trial. It requires considerable practice however. The injections can be repeated every five to eight days.

C. For the sake of completeness, mention might be made of the Swift-Ellis,¹¹ Ravaut, Byrnes and other methods of intraspinal medication. Undoubtedly these procedures can be used in congenital syphilis. The technical difficulties will always be a handicap and prevent widespread adoption, but the occasional case resisting all other forms of treatment might be benefited by such measures. But it would seem prudent, for the present at least, to be rather cautious with such radical procedures, and it would seem reasonable perhaps to await the conviction that these innovations are really as brilliant and invaluable as some of their enthusiastic advocates claim.

D. Mercury. Mercury is fully as valuable in the treatment of inherited syphilis as salvarsan and neosalvarsan. The neglect of it, in such therapy, would be a glaring error. Any course of treatment in which it is omitted or haphazardly used, is decidedly incomplete. However, the same difficulties that limit the use of old salvarsan in congenital syphilis, confront us in the exhibition of mercury. I refer to our inability to employ the ideal method—that of injection. Mercury should never be injected intravenously, even in the acquired form, because the tendency to thrombosis is too great and the veins at our disposal should be reserved for salvarsan. But the intramuscular injection of soluble and insoluble preparations of mercury must also be omitted in congenital syphilis, because of the delicacy of the infant's tissues. This is to be regretted, for the injection of mercury is the most satisfactory method of its administration. In cases of inherited lues past the adolescent period, injections can be used, but only rarely is it possible to use them earlier than 15 years of age.

There are really but two other ways of giving

mercury—through absorption from the gastrointestinal tract, and through inhalation of the vaporized metal. The former refers to mouth medication, the latter to inunctions, baths, plasters, the mercury aprons of Weland and the pillows of Merget, for in all these modifications, the inhalation of the vaporized metal is the chief manner in which the mercury gains access to the body. In the adult there is probably but little absorption through the skin. In children, however, the skin is more absorptive, but being likewise more delicate, is more readily irritated by the drug, and consequently greater care must be exercised in its use. Frankenstein of Berlin has recently applied more directly the inhalation idea, having perfected a machine which vaporizes the metal through electric heat, which is then inhaled through an inhalation apparatus. And it might be appropriate to note, therefore, that all rubbing of mercury should be done in a warm closed room, thus aiding the vaporizing of the metal and its inhalation.

The official blue ointment, the oleate of mercury or the Neapolitan ointment may be used for inunctions. The latter are not as potent, but are less dirty and disagreeable. The oleate consists of 10% to 25% oleate of mercury in olive oil; the Neapolitan, in equal parts of metallic mercury rubbed up with benzoated lard. The skin of children will not permit of vigorous rubbing, nor is this necessary; very gentle application for twenty minutes to half an hour sufficing. The soles of the feet are good sites for the inunctions, since the skin is thicker. In infants a convenient method is the placing of a pad of the ointment under the belly-band. If the rubbing is done by an attendant or nurse, a rubber or leather glove should be worn. Such inunctions should be given six days out of seven for about a month at a time with intervals of two weeks to a month between courses.

In very small children and infants, the most satisfactory mercurial therapy consists of mercurial baths. A wooden washtub should be used and filled with warm water to which 20 to 30 grains of the bichloride with an equal amount ammonium chloride is added. The child should remain in the bath 10 to 15 minutes and such baths should be given every day or every other day. It often combines local with general treatment, if there happen to be skin lesions. It avoids irritating the delicate gastro-intestinal tract.

Lastly, there remains the oral administration of the drug. In adults it is necessary, occasionally to have recourse to the digestive tract, either when a patient goes to the country and can not receive injections, and when for reasons of concealment he prefers not to use the ointments. In children the latter factor is not so vital, but there are nevertheless important objections to mouth medication. Absorption from the intestine is uncertain and slow. It is often impossible therefore to realize how much mercury the patient's body is actually receiving, however accurate the amount may be that he swallows. Furthermore, such treatment is left entirely in the hands of the father or mother, and though the directions may insist on three times a

day, doses are frequently omitted. And when taken faithfully derangements of the intestinal tract are not uncommon. The gray powder, mercury with chalk in doses of $1/4$ - $1/2$ gr., or calomel gr. $1/10$ - $1/4$ tid., are probably as good as any of the many preparations. The administration of mercury by mouth is, then, the least desirable of all methods, and although it is still the commonest form in which it is employed, it should become the least common; there will always be occasions where its exhibition will be handy and valuable, but it should cease being a routine procedure.

E. Iodides. The iodides occupy an important place in the specific therapy of congenital syphilis. They should be given far more frequently than is generally the case, and their mode of action and precise value should be more clearly appreciated. Occasionally one meets a patient who has been told that he has syphilis and whose only treatment has been K. I. Such therapy is useless. The iodides should never be given without mercury or salvarsan. The iodides do not cure syphilis, they are not spirocheticidal. The destruction of the causative organism is accomplished by the mercury and salvarsan, but the wreckage that results is swept away by the iodides. They occupy a singular role therefore in supporting and completing the work of the destroyers. The function of the iodides is to dissolve and eliminate. Although their most spectacular efficiency is demonstrated in the tertiary processes where gummas are magically made to vanish under their influence, they should likewise be used in the earlier stages of the disease, for the principle of their action remains the same, and it is at all times beneficial to aid in the elimination of the syphilitic poison.

The two commonest preparations of the iodides are the saturated solution and the combination in liquid form with mercury in the so-called "mixed treatment." When exceptional circumstances demand the use of mercury by mouth, this mixed treatment is quite satisfactory. It must be remembered that only the bichloride or biniodide should be used in such a mixture, for the proto salts are changed by the iodides into the binary forms, making a more powerful and perhaps dangerously high dosage. If mercury is given in pill form, it should be taken an hour before meals, and the K. I. an hour after meals, so that the former will have left the stomach before the latter arrives. As a routine preparation the saturated solution is very satisfactory. It should always be given in high dilutions, preferably in a large glass of milk, always after meals, as it irritates an empty stomach, and in much higher dosage than is generally prescribed. The usual dosage for adults will not be high for little children, namely 30-45 gr. per day, and it is far too low for adults. Probably little good is accomplished in adults under 75 grs. per day and many cases require several hundred grains per day. So for children an initial dose of 5 gr. tid. is quite conservative and should be rapidly increased. It is a curious paradox remaining unexplained, that iodism is more common with small doses of K. I. than with enormous doses. Sajodin, a pleasant palatable tablet form of iodide is to be

recommended in congenital syphilis. Its superiority over the saturated solution must be admitted, but it has no use in the treatment of acquired syphilis, as the proper dosage would be too expensive. But those in comfortable circumstances can take advantage of this excellent preparation for their luetic child, as the dosage for such cases would be within their means. We may some day have a satisfactory preparation for injection. At present iodopin can be used in those cases where iodides can not be tolerated by mouth or rectum, but the injections are rather painful. There remains another preparation, iothion oil, an odorless colorless preparation, which is rubbed into the skin. It is also somewhat expensive, but it may prove a valuable addition to our iodide therapeutics. I have used it successfully in two cases of syphilitic phlebitis and luetic periostitis.

F. Summary of specific medication. In the first few years of life, mercurial baths or inunctions with intravenous neosalvarsan solutions by the veins of the scalp. From two to eight years of life, mercurial baths or inunctions with epifascial injections of neosalvarsan. From eight to 15 years of age, whenever possible, mercurial intramuscular injections, with intravenous old salvarsan, using the veins of the forearm; otherwise neosalvarsan epifascially. The iodides to be used at all ages, in all forms of the disease.

Brief mention must be made of the importance of careful attention to the general hygiene of all children suffering from this disease. Lack of time forbids any detailed consideration of this essential aspect of any satisfactory treatment. It comprises scrupulous care of the skin, bowels, mouth and scalp, the necessity of ferruginous tonics, fresh air, cheerful surroundings, and the intelligent and sympathetic co-operation of the parents.

A consideration of the treatment of congenital syphilis to be complete must include the social treatment of the disease. But this also lies outside the scope of this paper. It may merely be mentioned that this would include the education of parents and prospective parents, special schools for feeble-mindedness, and the question of compulsory notification of still births, premature deliveries and miscarriages due to syphilis, and all cases of congenital syphilis, so that the law would insist on the treatment of such parents in order to insure their future progeny against the ravages of the disease.

THE CONTROL OF TREATMENT.

To what extent do the Wassermann reaction and Noguchi's luetin test aid us in controlling this treatment? It is generally assumed to-day that these tests must become negative and remain so, if the treatment is to be considered successful; that there can be no cure unless these conditions be fulfilled. Are we justified in this assumption? It is difficult, in our present knowledge, to give a definite answer to this question. We must acknowledge that frequently the treatment of this disease has been and still is inadequate, not intensive enough nor long enough continued. It is a wise plan therefore to set up such ironclad standards, the fulfillment of which demands, so often, years of vigorous treat-

ment. But it is one thing to raise obstacles, the surmounting of which insures on the whole more thorough treatment of the disease; and quite another matter to believe implicitly in these standards, to feel convinced that a case is cured when the Wassermann and luetin have been repeatedly negative, and to insist that the doctrine is established which maintains that treatment must be continued while these tests are positive. Such conclusions may be correct, but it remains for the future to prove such a contention. As long as the nature of the Wassermann reaction remains a mystery, so long as non-specific antigens give more delicate and as reliable tests as alcoholic extracts of syphilitic livers, we must defer positive statements concerning these tests. How strangely the clinical condition of the patient compares with the strength of the Wassermann response, must have occurred to anyone who has seen treated and controlled large numbers of luetic patients. It is not so rare to see a patient, who feels splendidly and is clinically well, and who has received thoroughly the standard mercury salicylate old salvarsan therapy, but whose serum nevertheless is strongly positive; and again another patient, just as well, having undergone precisely the same treatment, with a negative reaction. And the opposite picture occurs as frequently—a negative Wassermann in a patient poorly treated, showing unmistakable evidences of the disease. These apparent contradictions even if not the rule, must nevertheless be explained before we are justified in demanding negative Wassermans, negative spinal fluids, negative luetins from our well treated clinically healthy patients. The warnings of Keyes¹² are very timely in regard to the blind acceptance of a reaction that we do not even understand. The future may show that these standards are right; for the present it is certainly wise and conservative to follow them; but it is not necessary to make law out of uncertainty. If we say that a definitely positive Wassermann almost invariably means syphilis and a negative Wassermann means nothing, we have said all that we have a right to say at the present time. And this, of course, assumes that the test has been performed by a competent serologist. In the light of our present knowledge, it is precarious ever to speak of a cure in syphilis, except in those rare cases where the disease is aborted almost immediately after inoculation. To speak of a cure in congenital syphilis is even more unwise. Having the disease under control is quite another matter and should be possible in most instances.

Finally, if congenital syphilis in its entirety is to be properly and thoroughly treated, it should be in charge of the internist. Syphilis is a medical disease. Gout is not controlled by the orthopedist, even though his special knowledge may be necessary for certain aspects of the case. Nephritis is not treated by the ophthalmologist, merely because albuminuric retinitis happens to be found, though his co-operation and expertness is invaluable. Typhus fever is not treated by the dermatologist though spots appear upon the skin; nor diabetes because gangrene sometimes occurs; nor scarlet fever nor measles, though the diagnostic skill of the

dermatologist is a powerful aid in uncertain cases. And likewise, therefore, it must be admitted that syphilis, whether acquired or congenital, is an infectious medical disease, whose treatment should be in the hands of the internist, who should better be in a position to maintain a broad outlook over the disease in its entire course. He is interested in all its manifestations; as much in its destructions of bones and joints, in its production of deafness and blindness, as in its ulceration of the skin, production of feeble-mindedness, and invasion of the heart, blood vessels, and liver. At all times in the control of this treatment he needs the special knowledge, skill, advice and co-operation of the specialist, and such co-operation is absolutely essential to the proper treatment of the disease.

Literature.

1. Meyer, E.—Klinische und experimentelle Untersuchungen über die Wirkung des Salvarsans auf die Kongenitale Syphilis der Fetus bei Behandlung der Mutter. *Munch. Med. Wochenschr.*, 1914, lxxvi, 1801.
2. Findlay, L., and Robertson, M.—The Prognosis and Treatment of Congenital Syphilis, with a plea for Notification. *Glasgow Med. Jour.*, 1915, lxxxiii, 330.
3. Quoted by Rietschel, see No. 4.
4. Rietschel, H.—Das Problem der Übertragung der angeborenen Syphilis. *Ergeb. d. inn. Med. u. Kinderheilk.*, 1913, Bd. 12, p. 160.
5. Gaillot—La Syphilis de l'Enfant et son Traitement par le Salvarsan. *Archives des Med. des Enf.*, 1913, xvi, 892.
6. Sauvage—xv Congres de la Societe obstetricale de France (1912); Bourret, xv Congres de la Societe obstetricale de France (1912); Fabre, xv Congres de la Societe obstetricale de France (1912).
7. Noegerrath—Jahrbuch f. Kinderheilk., 1912, lxxv, 131.
8. Simpson and Thatcher—The Treatment of Congenital Syphilis by Salvarsan. *Brit. Med. Jour.*, 1913, ii, 534.
9. Wechselmann, W.—Ueber tausend subkutane Neosalvarsaninjektionen. *Munch. Med. Wochenschr.* 1913, ix, No. 24, p. 1309; *Munch. Med. Wochenschr.*, 1914, March, No. 10.
10. Kern, H.—Ueber die Anwendung der epifascialen Neosalvarsaninjektionen nach Wechselmann im Kindesalter. *Berlin Klin. Wochenschr.*, 1914, li, No. 43, p. 1742.
11. Swift, Homer F.—Intraspinal Therapy in Syphilis of the Central Nervous System. *Jour. of Amer. Med. Assoc.*, 1915, lxx, 209.
12. Keyes, Ed. L.—Some clinical Features of the Wassermann Reaction. *Jour. of Amer. Med. Assoc.*, 1915, lxxiv, 804.

Discussion.

Dr. H. H. Yerington: I feel that during the past two years the salvarsan treatment of congenital lues, both in infants and children, has not been used quite as much as it was when the drug first came out, for the reason that there have been some unfavorable reports in this country by some of our physicians. These men get unfavorable results because the drug is not repeated often enough. In these latent cases of lues, the syphilitic virus is very firmly imbedded, more so than in any other cases except the late nervous lues, and lately we have been injecting these children once a week for six or eight weeks, and in some cases even then the blood reaction is still positive. I should say that we have injected 50 infants under six months old with salvarsan, the youngest four days old. All are put under an anesthetic because it is hard to keep the needle in the vein if there is any movement on the part of the child. Up to the present time I have used the old salvarsan only. Our results have been so good with it and it is so easy to prepare that we have not tried neosalvarsan. In infants, about 0.1 gms. in 25 cc. of sterile water is injected with a small Luer needle into a vein in the bend of the elbow.

Dr. Langley Porter: A very brilliant man in pediatrics—Tobler of Breslau—is dead, and a few weeks before he died he called the attention of the profession to the fact that it was an easy matter to use the longitudinal sinus, with an open fontanelle, for the injection of salvarsan and other fluids, and as a site for the withdrawal of blood for the Wassermann test. The sinus does not collapse, the

needle goes into it easily, the head can be held firmly, and the procedure is rapidly and certainly accomplished. Tobler reported some fifty cases in which the sinus was used for such purposes without any ill results.

ROUTINE RADIOLOGICAL DEMONSTRATION OF GALL-STONES.

By C. W. LIPPMAN, M. D., Visiting Roentgenologist, San Francisco Hospital.

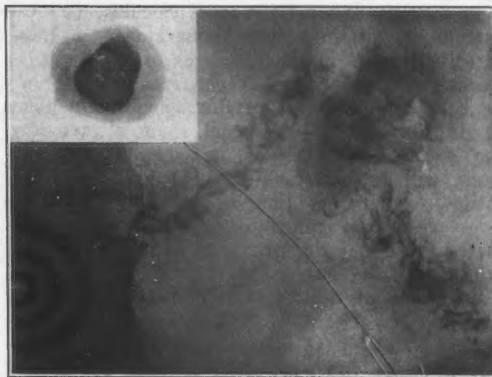
In August, 1913, Dr. Cheney at a gall-bladder symposium presented a brief and very interesting discussion of the gall-bladder problem.

"I think one of the most important lessons that have been set forth here to-day is the increased knowledge of the frequency of gall-bladder disease. The man who is interested particularly in digestive work and has cases coming to him because of gastric disturbance, is learning more and more to discover how often the real seat of disease is in the gall-bladder. As Mayo says in one of his articles, to treat the stomach in one of these cases of gall-bladder disease is 'like pouring water on the fire alarm box to put out the fire.' The large proportion of disturbances that we used to call gastric neuroses are due to diseases of the appendix or gall-bladder. Unfortunately there is no type of gastric disturbance that we can say always is due to gall-bladder disturbance. Sometimes there is hyperacidity and the case resembles ulcer; sometimes there is subacidity and it resembles cancer; sometimes atony and stasis in adhesions, resembling obstruction of the pylorus. In any of these cases treating the stomach does no good, and this lesson seems to me the most important. One point that Dr. Moffitt has particularly dwelt upon is the importance of a careful history. When we sift down the objective evidence of gall-bladder disease by physical or laboratory examination, it is very largely small and we must make our diagnosis largely upon the clinical history. If this has been carefully taken, it is usually quite definite before the end of the history is reached. Physical examination is so often unsatisfactory, and the findings on physical examination of the gall-bladder region as compared with the findings at operation are so disproportionate, that we have learned not to trust so much to the physical signs provided the history is definite.

"In regard to treatment, it has seemed to me for some time past that if we could draw a line between cases of cholecystitis and gall-stones we would have the dividing line between cases suitable for medical treatment and for the surgeon. If we know that a patient has stones in the gall-bladder, that patient should have his stones out as promptly as possible. On the other hand if we can establish a diagnosis of chronic cholecystitis, we can aid by medical treatment. But so many times the history of recurrent cholecystitis resembles so closely that of stones in the gall bladder that it is very difficult to make a diagnosis between the two."

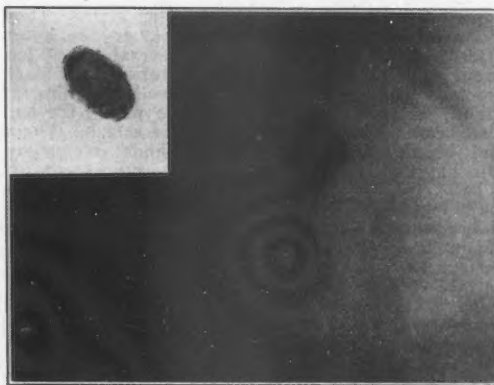
How extremely important to the patient to know definitely that these minor symptoms, vague and often misleading, definitely mean gall-stones.

This is my theme of the evening—the actual demonstration of gall-stones on X-ray plates. My work simply follows in the footsteps of Pfahler and the men like Case who have developed the radiologic demonstration of gall-stones to a very high degree of accuracy. The estimates of direct



Case I. Upper left-hand corner radiograph of stone after operation.

demonstration upon the plate vary between 40% and 60%. Case demonstrated gall-stones in 48 out of 1,000 routine gastrointestinal examinations. That is nearly five per cent. of all cases showing gastrointestinal disturbances. According to our best statistics not more than 10% of these patients should have had gall-stones, so Case feels sure that he has demonstrated 50% of the gall-stones present. Of course, the only logical way is to take routine gall-stone plates of all cases which are about to be operated on. This is the only accurate way of getting a percentage of error. After the first of the year I hope to be able to do this at the San Francisco Hospital.



Case II.

The indirect evidence of gall-bladder disease brings up the value of the radiological examination appreciably. I mention them in passing:

- (1) Hepatofixation of the stomach,
- (2) High fixation of the hepatic flexure,
- (3) Distortion of the duodenal cap,
- (4) Tenderpoint outside of the duodenal shadow.

In taking up the subject of routine direct gall-stone diagnosis by means of the X-ray plate, I wish to emphasize as always the fact that the correlation of the whole clinical picture and findings is absolutely necessary to any accurate diagnosis. Because a shadow in the gall-bladder region may be (1) a right renal calculus, (2) calcareous deposits in a tuberculous kidney, (3) calcareous deposits in the cartilages of a rib, (4) a calcareous lymph node. Nephrolithiasis may easily be ruled out either by pyelography or by plates at different angles—the renal stone always staying within the renal shadow, whereas the gall-stone will at one time coincide with the renal shadow, at another time be outside of it. Besides we can demonstrate the gall-bladder itself in the great majority of cases. The same method will prevent error in calcareous tubercular kidneys. Calcification of the costal cartilages is very easily recognized by a careful study of the plates. Stereoscopic plates I have found of rare necessity. Calcareous lymph nodes are fairly common but usually show a ragged irregular appearance with indistinct outlining of the edges. There are usually areas of greater density in the shadow giving it a mulberry appearance. A fifth source of error which I wish to mention is the enterolith. This caused me to be doubtful in the case which I wish to dilate upon this evening.

Mr. A. W. B., a long, lean, taciturn man of 54, is sent in with a question of carcinoma of the stomach or duodenal ulcer. His history was rather difficult to get as he was not an observant type of man. Six and a half months ago he had a severe pain in the pit of his stomach. It lasted for one and a half hours. The family practitioner gave him morphine and told him that he had acute gastritis. He was sallow at the time but so far as he knew not jaundiced. For two months thereafter he had pain and occasional vomiting two hours after eating. Eating did not relieve pain. He gradually came to live on a diet of postum and eggs. For four months he had no pain. Then the pain returned, but this time four to five hours after eating. He had vomited several times but brought up no blood. He had noticed no black stools. The pain had never awakened him at night. If he didn't eat, he had no pain. He had also been constipated since his first attack. There had been a loss of over 30 pounds in weight. His physical examination was negative except for a palpable liver with a questionable nodule. The man looked sick. Fluoroscopically the stomach showed no residue after six hours, there was no defect in the stomach outline, the antrum was perfect in form. The cap of the duodenum was perfect. Radiologically so far as we may, we had ruled out gastric ulcer and neoplasm and surgical duodenal ulcer. The cardiac end of the esophagus showed a moderate degree of spasm. The next day the laboratory findings were assembled. There was a mild grade of secondary anemia (4,580,000 erythrocytes 80% hemoglobin, with a leukocytosis of 13,200, 72% polymorphonuclears); the stool was negative for occult blood and iodophilic bacteria; the gastric contents contained no free HCl but much free blood. The urine was negative except for very large amounts of urobilinogen. This pointed to some disturbance in the biliary tract. After observing a normal colon, the patient was thoroughly cleaned out and gall-stone pictures were made on the following day. A clean cut shadow of a stone was seen lying within the shadow of the colonic lumen. There was also some stasis of bismuth. A tentative diagnosis of

gall-stone with adhesions, was made. Four days later the plates were made for confirmation of the shadow but the bowel was so well filled that the gall-stone could not be differentiated. Further delay was not advisable, so the patient was returned to his doctor with a diagnosis of gall-bladder disease with the possibility of malignancy and colonic adhesions. The operation was performed by Dr. I. W. Thorne. A single large gall-stone with a gall-bladder adherent to the duodenum was found.

I have demonstrated four other gall-stone cases within the last two months. Three of my cases have been operatively confirmed. One of the unoperated cases developed jaundice within 48 hours of the examination. The other unoperated case is in the country and I have not heard from the doctor. Several operated cases which were diagnosed clinically as gall-stones, on which I could demonstrate the gall-bladder but no stones, showed no gall-stones at operation.

Before closing this paper I wish to emphasize two points, firstly, the direct visibility of the gall-bladder shadow on technically perfect plates; secondly, the absolute necessity of the bismuth examination because of the indirect evidence of gall-bladder adhesions brought out thereby.

Note.—Unfortunately neither the faint shadow of the gall-bladder itself nor faint gall-stone shadows can be reproduced, but must be seen in the original.

DR. CARLOS J. FINLAY,

DISCOVERER OF THE THEORY OF THE TRANSMISSION OF YELLOW FEVER BY THE MOSQUITO.
HIS BIOGRAPHY.

By DR. E. B. BARNET, Technical Delegate of the Department of Health and Charities of the Government of Cuba to the P.-P. I. Exposition.

In view of the fact that one of the most brilliant discoveries of the age (fully as important to tropical America as that of the immortal Jenner), the transmission of yellow fever by the mosquito, was made in Cuba, and that with this discovery is connected the name of the eminent Cuban physician Dr. Carlos J. Finlay, and on account of his recent death it would appear opportune at this time to go into the life history of this illustrious man. His death occurred in Havana, Cuba, on August 20th, having reached the age of 82 years.

The work of Finlay has opened up the heretofore closed path of progress and civilization in tropical America. Without detracting in the least from the merits of Drs. Reed, Carroll, Agramonte, Lazear, Gorgas and others who contributed in the practice of exterminating the mosquito as a measure of sanitation, it is possible to declare that without the Finlay theory, the gigantic work of the Panama Canal could never have been accomplished.

The same sanitary plan which was carried out in Cuba, was enforced at the Canal Zone, thus confirming the ideas of this brilliant mind.

In an address delivered at Baltimore in April 1901, Dr. Walter Reed made the following statement: "to Dr. Carlos J. Finlay must be given, however, full credit for the theory of the propagation of Yellow Fever by the mosquito."

Dr. Carlos J. Finlay was born in the city of Puerto Principe (now Camaguey) in the Island of

Cuba, on the 3rd of December, 1833. His father was Edward, a Scotch physician, and his mother Isabel de Barrés, a native of France. While still in his infancy, the family moved to Havana, where the boy grew to his eleventh year, residing at times in the capital and at times in Guinimar. He received at the same time his school education at the hands of his aunt Anna.

In 1844 Finlay was sent to France and studied in a school at The Havre until 1846 when he had to return to Cuba on account of an attack of chorea. He returned to Europe in 1848 to complete his education in France, but the revolutionary movements of that year obliged him to remain for a short time in London, and during one year in a school at Mentz on the Rhine. He entered college at last in Rouen where he continued his studies until 1851 when he returned to Cuba to convalesce from an attack of typhoid fever. Later on he came to Philadelphia, Pa., where he graduated in Medicine on the 10th of March, 1855, from the Jefferson Medical College, and incorporated his diploma in the University of Havana in 1857, and began the practice of his profession.

In 1860-61 we find him in Paris following the hospital clinics and taking up some special studies, specializing somewhat in ophthalmic surgery.

In 1865 he married in the city of Havana, Miss Adela Shine, a native of the Island of Trinidad, still alive and a gifted woman who has faithfully and tenderly taken an active interest in all his endeavors. They have founded a family much esteemed in the social circles of Havana.

In 1881 he came to Washington representing the colonial government of Cuba at the International Sanitary Conference. He chose this occasion to make public for the first time his views on the *transmission of Yellow Fever by an intermediary agent*.

At the session of the Royal Academy of Sciences, in Havana, August 14th, 1881, he gave out his memorable theory of the transmission of Yellow Fever by the mosquito, reporting at that time a series of experiments that he had made on human beings, by which he claimed to prove the theory. In the communication he stated with all preciseness that for Yellow Fever to propagate it was necessary to have three conditions, viz: (1) The existence of a Yellow Fever patient into whose capillary vessels the mosquito is able to drive its sting and to impregnate it with virulent particles, at an appropriate stage of the disease. (2) That the life of the mosquito be spared after its bite on the patient until it has a chance of biting the person in whom the disease is to be reproduced. (3) The coincidence that some of the persons whom the same mosquito happens to bite thereafter shall be susceptible of contracting the disease.

Since that date (1881) he never ceased in his tenacious endeavor to prove the truth of these propositions. He studied very carefully the habits of the *Stegomyia* or *Culex* mosquito, Desv., as it was then called. He studied the anatomy of the insect and determined its manner of feeding and

breeding under varying conditions of temperature and atmospheric pressure, also the geographic distribution of the mosquito, and by most ingenious experiments he proved the truth of his doctrine.

Upon these facts, discovered and analyzed by him, he explained with mathematical preciseness, as we do now, all the phenomena of the epidemiology of Yellow Fever.

These were the fundamental bases of the modern doctrine, but they made so little impression that it needed twenty years more, and the coincidence of the intervention of the United States in the war for the independence of Cuba, before the men of science returned to think of the matter.

The glory of Finlay is comparable with that of Jenner and Manson. Working independently, the latter in Amoy, the former in Havana, they laid the foundation of the doctrine of the transmission of diseases by blood-sucking insects. Their discoveries, as said before, do not in the least detract from the merit of their successors. Smith and Kilbourne, Grassi, Ross, Koch, Reed, Lazear, Carroll, Agramonte, Laveran, Bruce and others, as the work of these cannot lessen the glory of the initiators.

At the breaking out of the Spanish-American war, Dr. Finlay, who was then 65 years old, came to Washington to offer his services to the American Government, and insisted with his friend Dr. Sternberg, then Surgeon-General of the Army, to be sent to the field. He took part in the campaign around Santiago where he did not fail to speak, as he ever did when the opportunity offered, of the benefits that might be obtained if his theories were accepted.

On his return to Havana, in 1898, he brought his views to the attention of the Army Medical Officers, the government and the medical press in the United States. He wrote at that time a complete plan of campaign against Yellow Fever on the same lines which were subsequently followed with the brilliant results now familiar to all of us.

Those acquainted with the facts can never forget the impression made upon them by the manner of Dr. Finlay in receiving the various commissions that went to Cuba, taking advantage of the new order of things, to study tropical diseases. Full of generous enthusiasm he would explain his views and show his copious notes, records, experiments, apparatus, mosquitoes and would offer himself to assist in any kind of experiments that might be undertaken.

In 1900, the U. S. Army Medical Commission met with the same reception, and Dr. Finlay handed to them the mosquitoes with which they commenced the experiments that definitely proved the theories he had been maintaining for twenty years previously. With what generous interest he followed the experiments of this commission recognizing freely the incompleteness of his own procedures, admiring with an almost infantile candor the methods of technic, and the demonstrative results that were developing! His admiration extended from the work itself, with affectionate demonstrations to the men who were engaged in it,

the members of the commission and the men who submitted themselves to the experiments.

Upon the expiration of the first American intervention, in 1902, the Cuban government did justice to the illustrious compatriot, appointing him Chief Health Officer and President of the Superior Board of Health. Since this date, Dr. Finlay left the Island on several occasions to attend various meetings on sanitary matters in the United States. Wherever he went his charming personality attracted the most sincere demonstrations of affection and respect, a tribute at once to his genius and his great virtues. At the XXXI session of the American Public Health Association, held at Washington, in October 1903, he was elected President for the meeting which was successfully celebrated at Havana, in January of 1905.

Many are the honors which have been tendered to Dr. Finlay by institutions and publications at home and abroad. The medical profession of Havana, together with officers of the American Army, presided by General Wood, celebrated with a great banquet and the presentation of a statuette, symbolic of genius, the triumph of Dr. Finlay in 1900.

His Alma Mater, the Jefferson Medical College of Philadelphia, gave him the honorary title of LL. D. He was also elected honorary fellow of the College of Physicians of Philadelphia.

The Liverpool School of Tropical Medicine, in 1901, granted him the Mary Kingsley Medal for meritorious work in that branch of pathology, an honor that Finlay divides with such men as Manson and Ross. The Provisional Government of Cuba and the University of Havana joined in the solemnity of the presentation of the medal.

In 1908 the French Government made him an Officer of the Legion of Honor, the insignia being presented by the French Minister at the Academy of Sciences.

The Government of the second intervention, at the instigation of Col. J. R. Kean, U. S. A., and following a recommendation of the First Medical Congress of Cuba, granted him a life pension and ordered the publication of his papers, which have been issued in a big volume.

In 1911 he was elected a Corresponding Member of the French Academy of Medicine.

The scientific societies have always received his communications with respect even at the time when his ideas appeared to be absurd. And it could not well be otherwise, if we consider the character of the man: genial, kindly, jovial, modest, strong in the rectitude of his principles, which were founded on the most profound reverence for the truth and a devotional religious spirit.

Dr. Finlay's capacity for work was extraordinary. In the midst of the labors of active practice, and the frequent productions of papers on various medical subjects in which he generally proved himself to be ahead of his compatriots, he would find, for instance, time to decipher an old Latin manuscript, with the necessary gathering of data from historic, heraldic and philologic sources, to prove that the old Bible in which the manuscript

appears was owned by the Emperor Charles V; or he would take up problems in the higher mathematics, chess and philology. In the midst of the harassing occupations of a great administrative office, and when he had passed his seventieth year, he mastered the complicated subject of immunity and the theories of Metchnikoff, Ehrlich, Buchner and others, presenting his own conception of the intricate problem.

Though Finlay's work is most varied in character, and though it bears throughout the stamp of great originality, it is all thrown in the shade by the great labor and genial conceptions that he devoted to the problems of Yellow Fever. This may be expressed in very few words: he discovered the fact that Yellow Fever is transmitted by the bite of one species of mosquito, and he invented a sure method for the extinction of the disease.

The members of the American Army Commission, Drs. Reed, Carroll, Agramonte and Lazear, and such men as Manson, Chaille, Boyce, Marchoux, Blanchard, Gorgas, Kean, General Wood and others, have given to Dr. Finlay the credit he deserves.

In his native country, Cuba, there has already been laid the cornerstone of the monument which will perpetuate the memory of this great investigator, indefatigable worker and illustrious benefactor.

"Great as our satisfaction must be, how much greater must have been that of the man, great as he was modest, who has made all this possible through a mental effort equaled by very few in the history of the human mind."

**☞ BECOME FAMILIAR WITH THE
JOURNAL'S ADVERTISERS BY
LOOKING THROUGH ITS PAGES
EACH MONTH.**

**☞ PATRONIZE THOSE WHO
PATRONIZE YOUR JOURNAL.**

THE USE OF THE X-RAY AS AN AID IN SURGICAL DIAGNOSIS.*

By FRED R. FAIRCHILD, M. D., Woodland.

Let me at once correct any misunderstanding that might be justified by the title of this paper. I do not pretend to be a specialist in Roentgenology. The necessity of doing this work myself has been imposed by reason of comparative isolation. The result has been several years of a very practical experience with the X-ray in its application to the various surgical conditions. Those conditions involving the use of the X-ray that belong absolutely to the field of the specialist are not discussed.

Also permit me to apologize in advance for considering some points that are perfectly well known and understood by all of you. The conditions under which most of you are working are similar to the conditions under which I am striving. Therefore, from my own experience and the experiences of the physicians in my community, I am able to understand your difficulties and to anticipate some of your shortcomings; shortcomings that are common to most of us. In urging that we do certain things more carefully and more consistently, I am only trying by reiteration to emphasize points that we all appreciate but too often fail to observe. With the idea of making the discussion practical, only those conditions commonly met with will be considered.

The most difficult problems in the field of medicine and surgery are met with in the department of diagnosis. Also, the most important step in the correction of any pathologic condition is an accurate understanding of the lesion that exists and more men in our profession are inclined to be indifferent to this fact than to any other. A good diagnostician must be a very patient man, for often the discovery of one obscure point may be the key to the entire problem.

The X-ray is but one of the many aids in diagnosis. In many cases it is the most important aid; but he who in using it foregoes the check of other tests will go astray. Emphasizing them, the importance of all other factors in arriving at conclusions, and urging the necessity of their employment, we will proceed with the consideration of the X-ray as an aid in the solution of various surgical problems.

To simplify the discussion we will consider our subject under the following heads:

I. The Skeleton.

- a Fractures and dislocations.
- b Abscesses in relation to bone.

II. The Thorax.

- a Pleural effusions.
- b Lung abscesses.
- c Aneurisms.
- d Tuberculosis.

III. The Gastro-Intestinal Tract.

- a Esophageal strictures and diverticulae.
- b Gastric cancer.
- c Gastric and duodenal ulcer.
- d Adhesions.
- e Appendicitis.
- f Incompetent ileo cecal valve.

IV. The Urinary Tract.

1. The Skeleton.

Of fractures and dislocations we may make rather prompt disposition. I only wish to emphasize the necessity, in justice to our patients and to ourselves, of making and filing for reference plates taken before and after reduction. It is a notorious fact that fractures are the excuse for more damage suits than are all other conditions combined. If we are right in our diagnosis and treatment the concrete records in the form of our plates will prove it.

Stereoscopic views of bone lesions are of far more value than are the ordinary plates made from two different diameters. By this method we have a picture with three dimensions. By careful study we are able to know exactly what manipulations will be necessary to effect reduction, and are able to say with a fair degree of assurance whether reduction will, indeed, be possible by any conservative measure. If we find that the open method is necessary, an exact knowledge of every fragment in relation to its fellows will go far toward enabling us to effect our repair with a minimum of violence.

b. Abscesses in relation to bones.

Under this head there are two conditions deserving of special mention. The first, osteomyelitis, is usually attended by symptoms that should be unmistakable. Yet it is an unfortunate fact that this disease is often confused with articular rheumatism, simple arthritis, or tuberculosis of joints, and allowed to go on without proper treatment for days or weeks with consequent disastrous destruction of bone tissue. Where there is room for suspicion, a good radiograph (stereoscopic preferably) should be made, for thereby recognition of the trouble will be made easy, while delay in diagnosis is often fraught with awful consequences.

During the last year I have had three tibial osteomyelitic cases, two involving bone from one epiphysis to the other, one involving more than half the medulla. In no case was an early diagnosis made, and in no case was the effort made to discover the trouble by the aid of the X-ray. All were seen by physicians at a comparatively early stage.

In this connection, I would not fail to mention a disease that has in the past been considered entirely within the realm of dentistry, and so its correction still is, but its diagnosis will usually come from the wide awake physician. I refer to the blind or chronic abscess at the roots of the tooth. If the pain is severe, the patient may seek a dentist and find relief, but, unfortunately, the pain consequent to the condition is often slight. As a result the source of infection by the streptococcus viridans, with its far reaching results in

* Read before the Placer County Medical Society, September, 1915.

acute and chronic inflammation of the joints or serous cavities, may remain undiscovered and undisturbed. It is possible, and not difficult by specially prepared dental plates, to demonstrate the presence of an abscess at the root of a tooth, even though it may be no larger than a grain of wheat. I mention this mainly for the purpose of emphasis, for both dental and medical literature have been full of it for the past year, and the frequency of these abscesses as a source of infection is so positively proven that we must accept the facts, and accepting them, if we fail to be on our guard, we do our patients grievous wrong. Every case of rheumatism, arthritis, endocarditis, myositis or pericarditis should excite our suspicion. There is a source of infection somewhere in the anatomy. If it is not otherwise demonstrable, suspect the teeth and free them from suspicion or fasten the blame on them by a clear dental film.

II. *The Thorax.*

Not so long ago diagnosis of obscure conditions within the thorax and particularly the mediastinum, was a test for the most skilful. For that matter enough obscurity still exists, but the X-ray has done much to simplify the difficulties. We still depend largely on the old methods of examination, palpation, auscultation and percussion, but, who among us, even in so simple a matter as a pleural effusion, has not been puzzled as between this condition and a pulmonary abscess, or an area of consolidation. A good radiograph (again preferably stereoscopic) will add enough to the clinical findings to decide the question, for the dense area as shown in the plates have very different locations and contours according as the accumulation is in the lung tissue or the pleural cavity.

In very early tubercular conditions I question whether the plate will do more than help to confirm a suspicion, unless it so happens that enlarged mediastinal glands develop as the first evidence of the tubercular involvement. Preliminary examination by the screen will aid greatly in correctly interpreting the plates. I pass this with a word, for it is only exceptionally that this may be considered a surgical condition.

The positive diagnosis of a thoracic aneurism, until it has assumed a considerable size, is, for the average physician unaided by the X-ray, well nigh impossible. By the aid of the ray the diagnosis should not be difficult, for the shadow plainly discloses the pulsating tumor, and the following stereoscopic plates, so accurately place the mass as to leave us sure of our ground.

III. *The Gastro-Intestinal Tract.*

Next to the examination of bone lesions, the X-ray offers us the greatest assistance in determining the character of pathologic conditions along the alimentary tract. Strictures of the esophagus are at once disclosed, the examinations being made by the screen with the patient standing during the attempt to swallow the bismuth-buttermilk preparation. An esophageal diverticulum may, by the same method, be accurately located and studied, and both these conditions differentiated from mediastinal tumors pressing against the gullet and causing almost identical symptoms.

Next, and most important, we wish to consider the relation of the X-ray to the diagnosis of lesions of the stomach and bowels. Of all of the aids in classifying abnormal conditions, affecting directly these organs, the X-ray is, in my opinion, of far the most value, and, strange as it may seem, it is, by the majority of physicians, the method least appreciated, or, at any rate, least used. The reason is perhaps not far to seek. The necessary equipment is expensive. It can be successfully used only after an expenditure of much time in study, for both the technic and the interpretation are difficult. These facts place the personal application of the method beyond the reach of the average busy doctor. If one has not his own apparatus it necessitates sending the patient to some one at a distance who is equipped to do the work, and entails a considerable expense to the patient. But do the results justify the expense and trouble? In my experience I should say, absolutely yes. In the vast majority of cases of so-called chronic dyspepsia there exists a demonstrable lesion. The physician who continues to treat a chronic dyspepsia, and does not employ every means in his power to determine the cause of the dyspepsia, is wrong. The primary symptom of gastric cancer, is chronic dyspepsia. Wait until you can make your diagnosis from physical signs, and you have waited too long. The belated diagnosis will do the patient little good. Make the diagnosis early, and the chance of operative cure is, according to such an authority as Wm. Mayo, even better than the chance for operative cure in early cancer of the breast.

In the diagnosis of ulcer of the stomach or duodenum the X-ray is again of the greatest value. The early active lesion is usually diagnosed without the aid of the ray, but the result of the forgotten or unrecognized ulcer is told more graphically by the screen and the radiograph than by any other sign. How often do we have patients coming with a history of a feeling of continuing fullness after eating, followed by a sour stomach, very late vomiting, and, perhaps, many of the symptoms of auto-intoxication. Would it not be of the greatest possible aid to know the exact position, size, and shape of such a patient's stomach? Is it not necessary to know whether that stomach is failing to empty because of a pyloric stenosis, because of spasm of the pyloric sphincter, because of adhesions holding the outlet of the stomach in an abnormal position, or whether, perhaps, it may be due to an atony and prolapse of the viscus? Without this knowledge, treatment, at best, is based on guess work. With this knowledge, we are in a position to give intelligent advice. The bismuth meal, followed by a careful screen examination and good Roentgenograms, will give us just this information. Can the physician, or the patient afford to be without it?

What of adhesions, either affecting the stomach or the bowels? Adhesions do perform strange freaks, and we may, or may not, be able to find an excuse for their existence. But they do exist, and are often the source of great distress. Except by the aid of the X-ray we can no more than guess at their presence, and when the guess is

made, it will usually be wrong. As an example, a slide that I will show later, will best illustrate the effect of an omental adhesion in distorting and interfering with the function of the stomach. Except for the information given by the X-ray the condition would not then have been discovered.

For want of time, I can no more than mention the importance of disturbances by adhesions that come about the terminal ileum and the cecum. An appendicitis long forgotten, may have left behind its trade mark in adhesions, with the result that the patient suffers constantly from iliac stasis (the most unfortunate form of stasis) and a chronic condition of auto-intoxication. Perhaps the complaint is of gastric dyspepsia and we can find no cause. Nor must we forget that very frequently overlooked condition, chronic gastric indigestion from pylorospasm, a reflex condition with the source of irritation elsewhere, and very frequently in or about the appendix. If the conditions exist, correct X-ray technic will demonstrate them and the lesion at best may be only suspected otherwise.

In discussing lesions along the alimentary tract, we must mention incompetency of the ileo-cecal valve. The symptoms are much like those from an intestinal stasis, and very often an inoffending appendix is sacrificed, and the offending valve overlooked. No condition is more beautifully demonstrated by the screen or X-ray plate. If after all bismuth has entered the cecum, one finds on examination two or three hours later that the lower ileum is again filled, the evidence is conclusive, and the technic of correction quite as easy as a simple appendectomy, and the results far more satisfactory.

IV. The Urinary Tract.

Finally, for the purpose of emphasis, let me remind you of the very great assistance that good Roentgenograms may be in clearing up problems associated with the urinary tract. By reason of the density of kidney and bladder stones, it is quite possible accurately to locate them on the plate. From my own experience, I feel sure that very many of the cases diagnosed as chronic cystitis have as a cause, a stone in the pelvis of the kidney or in the urinary bladder. Being undiscovered they act as a constant irritant and the patient rapidly progresses from a condition of discomfort to one of disability.

We have no right to make a diagnosis of chronic cystitis unless we are prepared to go further and search for the cause.

And so in conclusion, I would again urge for each of us more earnestness in diagnosis. Most of us are busy and often so situated that access to the best aids is difficult. We find recourse in our old and indefinite friends rheumatism, dyspepsia, biliousness, etc. In other days they were crowned with the dignity of diseases. As a matter of fact they are but symptoms and our duty to our patient can not be discharged until we can say to him, "You have rheumatism and the infection comes from such and such a source" or, "You have an indigestion caused by this or that lesion." And, since I believe that this positive information comes most frequently from findings by aid of the

Roentgen ray, I urge that we overcome the obstacles to its use, for very often it tells the story of coming trouble more early than our other tests and permits us to act in time whereas delay would render us helpless.

WHICH IS THE PREFERABLE OPERATION, PERINEAL OR SUPRAPUBIC PROSTATECTOMY?*

By CHARLES REES HARRY, M. D., F. A. C. S.,
Stockton.

The first operation for relief from the obstruction produced by an enlarged prostate was tapping the bladder above the pubis and passing a catheter through the opening to make a fistula which would provide proper drainage.

In 1834 Guthrie, and in 1837 Mercier devised instruments for cutting the obstructing bar at the neck of the bladder in a manner similar to the method of cutting a stricture of the urethra by an internal urethrotomy. In 1873 Botinni devised his galvano-caustic incision for the same purpose. Removal of the obstructing parts of the enlarged prostate through a suprapubic wound was recommended by McGill in 1887. Partial prostatectomy by the perineal route was first performed for malignant disease in 1866 but was later practiced for the removal of benign growths. In 1881 Harrison performed complete prostatectomy through the perineum.

Freyer in 1901 brought before the profession his complete removal of the prostate through a suprapubic wound. From 1895 to 1905 most operations removed the entire prostate through the perineum, but since the latter date a great many operators have preferred the suprapubic route.

Some authorities, Proust, Albarran, Young, Goodfellow and Parker Syms, advocate performing all prostatectomies through the perineal route, while others, Freyer and Squiers, advise the suprapubic method. Still others, Fuller, Deaver and Judd, practice both methods.

In a series of 463 cases operated on at St. Mary's Hospital, Rochester, 323 were perineal and 140 suprapubic operations. It is the object of this paper to bring out a thorough discussion of the subject to determine if it is not a better way to have the method of operating depend on the pathological condition present in the same manner as one would do in cases of hysterectomy, in some operations choosing the vaginal, while in others the abdominal route.

There are two principal varieties of benign prostatic enlargement, glandular and fibrous. The first is a true adenoma with very little fibrous tissue present. This is the most common form. In a series of 100 cases operated on by Squier, 62 cases were of this variety. The prostate grows to a large size, the bladder is frequently dilated and through a perineal incision, even with a retractor in the bladder to pull down the tumor, it is frequently impossible to reach high enough to enucleate the upper part of the lateral lobes.

* Read before the Surgical Section of the Pan-American Medical Congress, June 21, 1915.

In this form if the prostate is so much enlarged that one cannot feel the upper border through the rectum, it is better to do a suprapubic operation. In case of "ball valve" outgrowth or pedunculated median lobe, it is also better to remove it through a suprapubic wound. In the second variety, there may be some increase of glandular tissue, but the enlargement is mainly due to an overgrowth of fibrous tissue, and is very frequently firmly adherent to the capsule, probably as the result of inflammatory changes. In some cases there is merely a fibrous enlargement of the middle lobe, raising the inlet of the bladder or a ring of fibrous tissue, Goodfellow's so-called "doughnut hypertrophy," compressing the neck of the bladder and interfering greatly with the evacuation of the urine and still by a physical examination through the rectum, not much enlargement is found. In other cases the enlargement of the lateral lobes progresses toward the rectum. These forms are very difficult and in some cases impossible to remove through the bladder and therefore a perineal operation is preferable. There are intermediate forms with both an increase of glandular and fibrous tissue, but one can make a general rule that if the glandular tissue predominates, the mass will be more apt to encroach in the bladder, and it will be easier to operate from above, while if the fibrous tissue is in excess, it will be much easier to enucleate from below through the perineum.

The prostatic urethra is frequently removed in both operations, but this usually makes no difference in the functional result. The neck of the bladder is not so liable to be injured by the suprapubic method and therefore there is less danger of incontinence of urine afterward. Drainage of the bladder is better through a suprapubic wound, and this wound closes more rapidly than the wound left after an extensive perineal operation. On the other hand the suprapubic operation is longer, there is more shock and more danger of pulmonary complications.

The danger from sepsis however is greater following perineal operations. The mortality is higher in suprapubic cases. In 243 cases of suprapubic prostatectomy collected by Watson, the mortality was 11.5%, whereas in 530 perineal cases, the mortality was only 6.2%. The causes of death were sepsis, shock, uremia or some pulmonary complication. The end results according to Watson's tables were suprapubic 66% cured, 90% good results; perineal, 60% cured, 88% good results.

Complications such as orchitis, incontinence of urine or permanent fistula, 6% in suprapubic cases, while in perineal cases the percentage was 7.2. Squier says that post operative incontinence is an unknown accident, following a properly performed suprapubic enucleation of the prostate.

Although the mortality is slightly higher, the end results are more favorable in suprapubic cases. The choice of operation should be the suprapubic for all cases where the prostate can be successfully removed from above, and where the patient will be able to withstand the shock of

a longer operation, with increased time in bed; but in cases of small fibrous prostate, where the obstruction is produced principally by an enlarged middle lobe or where the lateral lobes project toward the rectum, the perineal route should be the preferable one.

TWILIGHT SLEEP.*

By MILLICENT COSGRAVE, M.D., San Francisco.

Probably no subject interesting to physicians has received so much attention from the laity during the past twelve months as twilight sleep. It has cast into the shadow vivisection, compulsory vaccination, and all other bogies of the lay press.

The laity cannot understand the prejudice of physicians against it, and many lay it to the fact that it is "made in Germany"; others, that it has been so widely advertised in magazines and by physicians who wished to profit by lay advertising that the more ethical members of the profession refused to try it.

Of course, our American experience with the Friedman tuberculosis "cure" has taught us to fight shy of the advertising physician, no matter how high his standing in his own country. I remember when Professor Adolph Lorenz was here in 1902, that his attitude towards reporters and his desire to facilitate their opportunities in acquiring news was widely and more or less justly deplored by the profession at large.

Recently during my visit in New York, the New York Times got hold of a new serum cure for cancer that is being tried by some of the professors of experimental medicine in Cornell University, and wrote it up in a most sensational manner. The men in question threatened reprisal and were told by the Times people to go ahead, that they, "The Times," would gladly pay the costs.

Twilight sleep, it seems to me deserves better treatment at our hands. One can hardly say it is in its experimental stage when one considers that Kroenig and Gauss have been using this method in Freiburg for the past ten years, have delivered 3000 women successfully, and published reports of their work that prove it to be humane, satisfactory, and safe. Kroenig in the *Journal of Surgery, Gynecology and Obstetrics*, May 1914, makes a plea for the use of Dämmerschlaf, especially in highstrung, modern nervous women, and states: "The patient has a perception of pain, but not an apperception. She still reacts to labor pains with an expression of pain, but afterwards has no recollection of the pain experienced." "We believe," he continues, "on a basis of our experience in which no detrimental results ever occurred for the mothers, that we are safe in recommending this drug (scopolamin morphine) as not dangerous for mothers. In some cases the pains may be slightly reduced, but our calculations show that the average duration of birth has increased one half-hour, a negligible amount."

Dr. Knipe, until recently adjunct professor of Obstetrics at the Postgraduate Hospital, New York, and at present attendant obstetrician at the Gouver-

* Read before the Cooper Clinical Society, May 3, 1915.

neur Hospital, in his article on "Twilight Sleep," December 1914, *American Journal of Obstetrics*, says in part: "The technic of twilight sleep is rendered difficult by the varying susceptibility of different people to scopolamine, and because of the necessity of continually testing the varying consciousness of the patient. The basis of successful twilight sleep is the proper use of the memory tests. These tests must be uninterrupted throughout labor, and are the best and only method of gaging the consciousness of the patient." Knipe also states that morphine must be used but once and then only in $\frac{1}{8}$ of a grain dose. He says: "To properly carry out twilight sleep requires the use of a special chart in which the time, the number of injections, symptoms of the patient, memory tests, the fetal heart, and the mother's pulse are noted." "The production of twilight sleep requires not only a technical knowledge of the use of scopolamin and morphine, but also good obstetrical judgment and an adequate understanding of obstetrical forces and conditions. It is for this reason that the method is best used by the obstetrician. It is easier to train a good obstetrician in the use of scopolamin and morphine than it is to make a good obstetrician out of one who may know of the induction of twilight sleep."

I think personally that many of the prejudiced expressions we have heard, too, are based on lack of obstetrical skill on the part of those handling the drug. I think we must all admit that many cases of still-birth are due to a lack of experience on the part of the obstetrician, especially in former years, when a practical knowledge of obstetrics was largely a matter of good luck.

The danger to the child. That the injection of scopolamin subcutaneously into the mother is absorbed into the circulation of the child is to be expected, and can be easily proved by the presence of the drug in the urine of the child at birth. Holzbach has proved the presence of the drug in the mother's milk and in the urine of the child. In the child the drug is quickly excreted, generally in fifteen minutes after birth, if small doses have been used. The effect of the drug in endangering the life of the child by lengthening labor which averages one hour more in primipara and one-half hour in multipara is of little moment when the drug is properly used.

Salzberger in Freiburg investigated the matter of dangers to the child, and his investigations proved that when properly given, scopolamin had no dangerous effects on the life, health, and development of the child. Gauss and Kroenig also state that they have followed the history of some of their babies, and report that there was no difference in the mortality of these babies nor in their morbidity than among those whose mothers had not received this treatment.

In *Modern Hospital*, October 1914, Knipe dwells at length on the necessity of quiet in the induction of twilight sleep and suggests that maternity wards in hospitals be furnished with padded rooms, silenced floors, etc. Whether this makes a great difference or not, I am not prepared to say. In the four cases I witnessed in the maternity

wards of the Long Island College Hospital, there were several women in labor at the same time, no especial effort was made to induce quiet; of course the women were not in the same room, but you could hear their cries. Yet the twilight sleep patients did not appear to be disturbed in the least.

Polak, professor of Obstetrics and Gynecology in the Long Island College Hospital, in an article in the *New York Journal*, February 1915, states that he is convinced that there is no reason why Dämmer-schlaf should not be caused in all women who show the physical signs of active labor, provided that the woman be under *continuous intelligent observation*. He continues: "It is distinctly a first stage procedure and should not be begun if the labor be far advanced; if such be the case the doses required will necessarily be greater, the danger to the patient obvious." . . . "This analgesia is particularly indicated in nervous women of the physically unfit type in their first labors," says Polak. For it is in this type of woman that labor has most often in ordinary practice to be artificially terminated, owing to the physical exhaustion so common at the end of the first stage of labor before cervical dilatation is complete, or in the second stage when no more force can be brought upon the uterus by the abdominal muscles; and it is with this class that scopolamin morphine will give the best results, because by its use we are able to attain full dilatation of the cervix by the operation of the physiological factors, i. e., bag of waters, and force of the uterine contractions before the patient begins to show signs of physical fatigue.

McPherson and Harrod, attending surgeons in the New York Lying-In Hospital in the *Bulletin* of that hospital, February 1915, report the results in 100 cases in which they used scopolamin morphine, and 100 untreated cases. They secured complete amnesia in 66 women, partial amnesia, hazy recollection with distinct alleviation of the patient's suffering in 10. Of the remaining, 20 did not respond to the drug at all, and four were too far advanced in labor to derive any benefit. It is noteworthy to remark that practically all of the successful cases were those in which the treatment was started three to seven hours before the termination of labor. "The percentage of successful cases is increasing," they report, "as we become more familiar with the treatment."

"The disadvantages claimed by those opposing the treatment are chiefly two,—fetal asphyxia and postpartum hemorrhage. It is evident that these are the result of faulty technic.

"In our cases the tendency to hemorrhage seemed less rather than greater. As to the fetal asphyxia, in the 100 cases delivered without scopolamin, there were seven instances of asphyxia at birth, two requiring tubs and artificial respiration for twenty minutes. With the scopolamin babies, on the other hand, the majority cried at once without any evidence of being under a drug; eight were moderately apnoeic, but quickly responded, and two required artificial respiration for 15 or 20 minutes. This asphyxia occurred in the cases where there was a delay of the head on the perineum. The average

duration was 16 hours in the untreated primipara, against 18 hours in the 100 treated.

Brodhead in the February *Post Graduate Magazine* reports that his personal experience is limited to 71 cases in which he has used the Siegel or routine method. His experience has made him conclude that twilight sleep is still in its experimental stage. But the Siegel method was used only on the fourth class patients in Freiburg and is considered there to be in its experimental stage. None of the Gauss-Kroenig records are based upon it.

In a discussion following Dr. Knipe's paper in the N. Y. Academy of Medicine, Dr. Abraham Rongy said that in a series of 230 cases, 80 of the children suffered from slight oligopnea; the first stage of labor was shortened, the second prolonged; as far as hemorrhage was concerned there did not seem to be any appreciable effect; amnesia was obtained in 80% of the cases.

Dr. Harrod said "that when the Gauss-Kroenig method was used, the general effect on labor was a rather more rapid dilatation of the cervix than usual, followed in a certain number of cases by delay on the perineum. This delay, if the fetal heart were watched, was of distinct benefit to the mother, resulting in fewer perineal lacerations. Getting the patient under the drug must be gradual with the minimal dose to produce the effect. That any harm that came to the child was due to bad obstetrics, not to the scopolamin treatment. Even better obstetrical knowledge and judgment than usual are necessary, and abdominal and vaginal examinations must be carried on as in any labor."

Dr. George Shears, N. Y. Polyclinic, stated that in the cases which had come under his notice the effect on the mother was wonderful; there was no hemorrhage, no relaxation, the mothers recovered quickly. But the various factors involved were of danger to the baby, and that to state that the baby was better under the several factors involved was to put too much strain on the imagination, and after all the chief object in pregnancy is the baby.

Dr. Knipe and Dr. McPherson do not believe that labor is prolonged, for in their series of cases the total duration of labor was reduced. They say that if those who said that mothers did not gain much and babies were endangered, they should hear the women who had received it enthuse over it.

I must say I had similar experiences. The "Mrs. Boyd" who has caused much of the prejudice against twilight sleep in her efforts to pass her knowledge on, and who wrote the first magazine articles, started a society for the propagation of twilight sleep, and has more recently written a book on it. I met this little woman and her description of her experience of childbirth under Gauss and Kroenig in Freiburg sounded like a marvelous fairy tale, and would have impressed the most skeptical.

Dr. Cragin is perhaps one of the strongest antagonists to twilight sleep. He said there were possibilities of good in the method, but that the practice of twilight sleep was not so easy a matter as described in the magazines, and if anybody

thought that the method was possible by the general practitioner with small experience, he was mistaken. He found that some of the patients were decidedly excitable and tried to get out of bed, and that prevented asepsis and increased the danger of infection.

The question of the safety and desirability of the use of "Dämmerschlaf" seems to me to be:

1. That the man or woman using it must be an experienced and careful obstetrician.
2. That it must be given in a hospital or in a private home where a whole hospital force may be employed.
3. That the obstetrician be within call.
4. That the proper conditions be observed and the Gauss-Kroenig technic used.

The *technic of Siegel*, which was what De Lee of Chicago saw when he visited Freiburg, and which is the method chiefly used in America, is one of the reasons for the failure of twilight sleep in many instances. In this method every patient is treated similarly and the doses are given in a routine fashion; too much narcophen is used and when the second stage is prolonged, frequently pituitrin is also used, which is another factor which may result in harm to the baby.

Dr. Seantt, obstetrician at the University of Minnesota, quotes twelve cases and concludes that twilight sleep should not be administered at random, that the dose of hyoscin and morphine should be given cautiously and in minimal amounts, that the subject under its influence should be closely watched by an experienced attendant, and lastly that the other advantages should be employed to their fullest extent.

Dr. De Lee of Chicago states in *Modern Hospital* that he observed ten or twelve cases in the Frauenklinik in Freiburg in the service of Dr. Siegel. In these there were four forceps cases and one craniotomy. He says the proper conduct and treatment requires a large force of physicians and nurses. The fetal heart sounds must be watched constantly and the patient must not be left alone, especially if delirious. "Indeed," he writes, "I had to admit that when the method worked well it was ideal. In a well-equipped maternity hospital in the hands of an experienced obstetrician, these drugs may be administered with a certain degree of safety, but its general use throughout the country would result in an appalling infant mortality and an enormous maternal mortality and morbidity."

In the five cases I saw in the Long Island College Hospital the Gauss-Kroenig method was the one used. The patients were placed in a semi-darkened room and no conversation was indulged in. The first dose was administered when there were regular forceful, even painful contractions of the uterus, the pains coming about five minutes apart. It consisted of an injection of 1/150 of gr. scopolamin and 1/68 of narcophen. Three-quarters of an hour later the patient was shown some object with which the test was made, and then thirty minutes later was shown the same object. If at this time the patient remembered having seen the object before, which is usually the case, a second

injection was given, consisting of 1/150 of scopolamin but no narcophen. (If there is amnesia after the first dose, no scopolamin is given until further tests show a return of memory.) About two hours later, the memory tests having been used every thirty minutes, and the condition of the pulse, fetal heart, and pupil noted, a third dose consisting of 1/400 of scopolamin was given, and as a rule five doses were the usual amount used. The first patient (a primipara) was very quiet during the whole course of labor. After the second dose her face was flushed and she complained of dryness and asked for water. That she felt her pains was evident, for she would squirm, bear down and throw herself from side to side while they lasted. With her the second stage was not prolonged, and the head came very rapidly and forcefully on the perineum. Dr. Polak, in order to avoid a laceration, cut cleanly through the middle of the perineal body and delivered the baby, which was neither blue nor apnoeic, but cried lustily immediately. After the delivery of the placenta the perineum was sewed up. The patient had no recollection of the birth the next day.

The second case was in the Brooklyn City Hospital, and the room and setting were admirably adapted for the induction of twilight sleep. The room was painted in a deep shade of green, the lamp shaded, and at the head of the bed on one side sat the doctor, on the other the nurse. She was in active labor, the pains coming regularly. Every twenty minutes her memory was tested and five doses of the drug in all were given. She slept between the pains, and during many of them seemed to rouse slightly and groaned a little. The baby cried instantly and required no treatment and was not blue.

The third case was a multipara, a very noisy woman. She came to the Long Island College Hospital in active labor and was more advanced than the former cases. She did not respond so readily, but shouted and screamed during her pains, talked and mumbled between them. Her childbirth to the onlooker was very disturbing, for she seemed in agony, but next day claimed she had not remembered anything.

The fourth case (a primipara) age 20, a strong husky girl, came into the hospital screaming and most noisy. For one-half hour after her first dose she remained noisy, but after that became quiet and slept between her pains. In the last stages she was rather delirious and difficult to handle, and was delivered with forceps, the cord being tied around the child's neck twice. This baby did not cry immediately and was dipped in hot and cold water quite unnecessarily, I thought, for in a few moments, as soon in fact as he was put in the water he shrieked and kept it up.

The fifth case was also a primipara, a case that would make you want to use twilight sleep. It was like the second and third case where everything was ideal. The patient responded to the drugs. She was sufficiently intelligent to co-operate and the baby was a fine, strong, husky child who showed no evidence of scopolamin.

In all these cases, the physician was present during the entire time, as were the nurses. Every-

thing was quiet in the room and an atmosphere of peacefulness prevailed, so different from the ordinary case. These women were all peasants and chiefly foreigners, and when I think of them and remember some of my experiences with foreigners of a similar class here, I rejoice that such a drug may be used on the very poor in hospitals and on the very rich wherever they may be. The great middle class will not be benefited by it unless they come to hospitals, for they will not be able to afford to pay for the physician's time. In one or two of the really old hospitals in New York where they are using the scopolamin treatment in childbirth, patients are paying \$70 and \$80 for small dark rooms with the accompanying discomforts and are not complaining.

That women feel the pain is evident from their expression at that time, but they use their forces better, sleep between pains, bear down fearlessly, help themselves, and remain amiable and pleasant throughout. I do not believe there is any possibility of using the treatment outside of a hospital, but I do think that in the case of the modern, nervous woman who shrinks from maternity, there will be a lessening of race suicide. I do not feel that it is a panacea for all the troubles of childbearing, but I do feel that we should give it a fair trial using the Gauss-Kroenig technic, and in the most experienced hands of an obstetrician of good judgment; not one who will make up his mind beforehand, and from his conclusions on experience based on 10 or 12 cases observed in a foreign clinic or in the hands of an unskilled obstetrician.

I quite agree with the physicians who, if they are convinced that scopolamin increases the number of stillbirths, refuse to use it. For our statistics show a very large percentage. In New York in 1912 the *average per thousand* was 46, in San Francisco 44.2. In 1906 in New York per 1000, 56. In foreign countries the smallest percentage of stillbirths was in Austria-Hungary. There the greatest number of stillbirths were among illegitimate children.

In Sweden,	28	legitimate,	87	illegitimate.
In Prussia,	39	"	54	"
In Belgium,	43	"	58	"
In France,	42	"	78	"
In Austria,	24	"	38	"
In Hungary,	14	"	30	"

1916—STATE SOCIETY—FRESNO.

The Council of the State Society, at a meeting held September 11th, discussed the various places which had extended invitations for the Annual Meeting of 1916. After carefully considering the various points in relation to the best interest of the Society and the profession as a whole, a ballot was taken which resulted in the selection of Fresno. The meeting will be held in the third week of April, 1916, at Fresno, and we are assured of ample and satisfactory hotel accommodations. It goes without saying that a royal welcome will be extended to all our members by the profession of Fresno.

Further information will be published later on in the Journal.

GLANDULAR POLYPUS OF THE COLON.*

By GEORGE H. AIKEN, M. D., Fresno.

Mrs. T., age 21, height 5 feet 3 inches, weight 110 pounds; nationality, Armenian. Birthplace, California.

Family History: Mother and one sister living and enjoying good health. Father died at age of 45 years, from what was considered papilloma of the bowels. Autopsy was made by Dr. R. S. Anthony, then living in Fresno, and he gives his recollections in the matter from a letter recently received. Speaking of the autopsy he states: "We found the entire colon and a portion of the small intestines involved in these peculiar papillomatous growths. One peculiar feature noted was, that the mucous surface itself did not appear abnormal, simply the pediculated cauliflower growths of various sizes and lengths. It is stated by the family that this man suffered more or less from diarrhea since early infancy. He was an invalid some three years prior to his death."

Personal History: Mrs. T. was always frail from infancy, anemic, with sallow complexion. Was married in 1911. Had quite a severe attack of dysentery same year. During the entire time of pregnancy, latter part of 1911, she suffered from diarrhea, which was only partially controlled with great difficulty. After her confinement in July, 1912, she regained flesh and strength slowly, and continued in fairly good health, yet had occasional attacks of diarrhea. In 1913, she spent several weeks on the coast and gained ten pounds. In 1914 while visiting in Berkeley, she consulted Dr. Martin Molony of San Francisco, who discovered some polypoid growths in the rectum. She later was referred to Dr. Emile Schmoll of San Francisco, who after a thorough examination returned the following report:

Diagnosis: Glandular Polypus of the rectum, with suspicion of malignancy. Red blood cells 2,840,000, leukocytes 11,200, hemoglobin 40 per cent. I would here state that she had been passing some blood and mucus with nearly every action of the bowels for some weeks, and suffered more or less pain in the left side of the abdomen.

Dr. Schmoll advised iron, quinine, strychnine, and arsenic internally, and rectal instillations of solution of calcium lactate daily for control of hemorrhage. Having had favorable results in seemingly like cases, I added petroleum emulsion, one tablespoonful in half glass water night and morning. No polyps appeared in her passage for one week, when she commenced to discharge large numbers of them, ranging in size from a grain of wheat to a small filbert. During the following month fully two ounces passed per rectum, she gained in flesh and strength, and color improved. There was much less pain over the left side, actions from bowels less frequent, better consistency, far less mucus, and the red blood cells had increased to 4,000,000, hemoglobin from 40 to 80 per cent. During the month of December, there was nearly three weeks during which time no polyps passed, and there was general improvement, with exception of some blood continued in her actions. I will state that the calcium lactate accomplished little good, rather added to her discomfort and all rectal injections were discarded. During the month of January her condition remained about stationary, with several actions each day, little mucus but more often blood.

I would state that Dr. J. L. Maupin came into the case in November and after careful examination we were all agreed that the growths were confined to the transverse and descending colon. During the month of February she lost ground, suffered much pain in the left side, blood increased in the actions, and was losing flesh and strength.

* Read before the Fresno County Medical Society, September 7, 1915.

In the event of no improvement Dr. Schmoll had advised a Lane operation, thus removing all irritation from the colon, and anticipating atrophy of the morbid growths therefrom. In view of so little gain and the patient anxious for relief, operation was advised to which the patient readily consented. On March 18th, Dr. J. L. Maupin assisted by Dr. Craycroft and myself short circuited the bowel, transposing the lower end of the ileum to the descending colon near the sigmoid flexure, making the attachment as low as possible.

None of the morbid growths were found in the small intestine, and to all appearances the mucus membrane was perfectly normal. The upper end of the severed colon was partially filled with the polypoid growths, in the main pediculated variable in both size and length. By the feel, I should say they were in the main bunched and the bowel content was filled to fully one-fourth. As was found in the case of the father, and reported by Dr. Anthony, the interspaces between the growths of the mucus membrane were normal.

The patient rallied from the operation without serious shock, and made an uninterrupted recovery, returning to her home at the end of two weeks. There has been a steady gain in both weight and strength since the operation, but bowel movements were too frequent for some weeks. Suffers very much less from pain in the left side, less blood in the actions, and only an occasional discharge of a polypoid growth from the colon above the attachment.

An examination per rectum with proctoscope as late as June 15th disclosed an improved condition. No new growths were found and those present soon after the operation had disappeared. What the future holds in store for this patient no one can foretell.

We may very naturally speculate on the following points:

First, how much can we place to the credit of heredity?

Second, are these growths found in the large bowel likely to extend and involve the small bowel, as in the case of the father?

Third, is there any known rational treatment for this condition?

Not in a single text book have I found a clear well defined clinical history of a condition, similar to the case here narrated, or that of the father. While there is nothing out of the ordinary in the pathology of these growths, the extent of the bowel involved is certainly very rare and unique.

Virchow's very lucid exposition of all morbid growths in his work on "Cellular Pathology," is perhaps as satisfactory as any. You all know that he contends the starting point of all new formations, whether benign or malignant, is irritation followed by the splitting up and proliferation of cells. When, if ever, a growth foreign to the tissues is to assume dangerous proportions, or become malignant, this eminent author makes no claim. In this case as with many other new formations, together with heredity, there is a marked tendency to malignancy. With the daughter as well as the father, we have the long continued irritation from diarrhea, and as a consequence proliferation and hypertrophy of the mucous tubular follicles of the bowel.

Billroth in his "Surgical Pathology" has this to say, "I cannot consider the proof as at all con-

vincing, but remain of the opinion, that there is just as much a specific predisposition to the development of tumors, as there is to chronic inflammations with proliferation of the inflammatory new formations."

PATRONIZE THOSE

WHO

PATRONIZE

YOUR

JOURNAL

BOOK REVIEWS

Care and Feeding of the Infant: Practical Advice for Mothers and Nurses. By George D. Lyman, A. B., M. D. With an introduction by Ray Lyman Wilbur, M. D., Dean of College of Medicine, Leland Stanford Jr. University. Paul Elder & Company, San Francisco, 1915.

Doctor Lyman's book, "Infant Feeding," with a very apt introduction by Doctor Wilbur, is produced in Elder's inimitable style. The book, as Doctor Lyman says, is the result of notes to the nurses and has many very valuable suggestions both for nurses and mothers. His suggestions to mothers on feeding and his dietaries and recipes are very well worked out and should be of considerable advantage to mothers of young babies in the preparation of their food. The various sections are well arranged and the material merits the careful consideration of every mother and every nurse working with children. We recommend the book most highly. W. P. L.

The Care of the Baby. By J. P. Crozer Griffith, M. D., Professor of Diseases of Children in the University of Pennsylvania. Sixth edition thoroughly revised. 12mo. of 463 pages, illustrated. Philadelphia and London: W. B. Saunders Company, 1915. Cloth, \$1.50 net.

This book contains much useful information to a mother in the care of her baby through the first few years. I recommend the chapters on the well baby, but not those on the sick baby unless, as the author has expressed in his preface, the mother is unable to get medical advice. The information that all mothers need, unless they have had a nurse's training, is that appertaining to the care and management of a well baby. C. B. M.

Collected Papers of the Mayo Clinic, Rochester, Minn. Edited by Mrs. M. H. Mellish. Vol. VI. 1914. W. B. Saunders, Philadelphia and London, Publishers. 1915.

These yearly publications always mark another

epoch in American surgery. They represent the advance of surgical efficiency and give us the result of honest straightforward statistics. The present collection of papers shows increased productions from the associated staff of the Mayo Clinic and less of the work of its original founders. Research and orthopedics assume more prominence yearly. The illustrations have always been good and improve with each issue. American medicine owes the Mayos a debt of gratitude. S. T. P.

Fractures and Dislocations,—Diagnosis and Treatment. By Miller E. Preston, A.B., M.D. With a chapter on Rontgenology by H. G. Stover, M.D. 860 illustrations. Published by C. V. Mosby Company, St. Louis, 1915.

This is a very practical book, full of pictures;—860 illustrations we are told. It is typically American in its neglect of lengthy discussions of pathology, though the surgical anatomy is well considered. Another good feature is the photographs of very recent dislocations and fractures exhibiting the characteristic deformities and postures of the patient. Many new ideas on treatment are brought forward and Albee's work on inlay bone grafts is given in detail. In spite of the author's fatal habit of splitting his infinitives and other blemishes apparent only to the hypercritical, it is altogether a very commendable work. S. T. P.

The Prevention and Treatment of Infections. By Oliver T. Osborne, A.M., M.D., New Haven, Conn. Published by Journal of the American Medical Association, Chicago, 1915.

Recently in the Journal of the American Medical Association there appeared a series of articles entitled "Prevention Greater Than Cure." In this series were many valuable papers that have no doubt found their way into many a physician's scrap-book. They now appear in print gathered into a handy little volume under the title as above. For those who are interested in hygiene, especially social hygiene as it affects the health of the growing child, this book is extremely valuable. Incidentally, this useful volume formulates to the practitioner the answers to the majority of questions that the average wide-awake and magazine-reading patient is very apt to ask. G. H. T.

Gynecology. Edited by E. C. Dudley, A.M. M.D., and H. M. Stowe, M.D. Practical Medicine Series, 1915. Volume 4. Published by Year Book Publishing Co., Chicago, 1915. Price, \$1.35. **Pediatrics.** Edited by Isaac A. Abt. Orthopedic Surgery. Edited by John Ridlon and Charles A. Parker. Practical Medicine Series, 1915. Volume 5. Published by Year Book Publishing Co., Chicago. 1915. Price, \$1.35.

No particular volume of this valuable series is ever much above or much below a fairly high standard. Of course, each specialty is taken care of by some editor-in-chief and his personality will usually dominate the presentation of his subject. Other than this, it may be said, in general, that the volumes of the Year Book as they appear month after month and year after year invariably provide their readers with an excellent résumé and abstract of the most important articles of each of the medical specialties. The errors of omission are few indeed and no partiality or bias are in evidence. To repeat, in substance, a former review: these volumes afford the medical man a valuable means by which he may at all times keep up with the best articles in each of the specialties.

G. H. T.

A Manual of Diseases of Infants and Children.

By John Ruhrah, M. D., Professor of Diseases of Children, College of Physicians and Surgeons, Baltimore, Md. Fourth edition, thoroughly revised. 12mo. volume of 552 pages, 175 illustrations. Philadelphia and London: W. B. Saunders Company, 1915. Cloth, \$2.50 net.

Dr. Ruhrah's revised and re-edited fourth edition of the Manual of Diseases of Infants and Children is probably one of the best rapid reference books for clinical use. The 176 text figures are well chosen and for the most part well reproduced. There are several new chapters, one on pellagra, another on drug eruptions, and a very good chapter on mental defects, with a full account of the Binet-Simon method for testing intelligence. Altogether the book is one of the best of its kind, though it cannot take the place of a standard textbook for students. As a reference book it has a very definite place, not only in the library of the student, but in that of the practitioner as well.

W. P. L.

Diseases of the Nose and Throat. By Algernon Coolidge, M. D., Professor of Laryngology in the Harvard Medical School. 12mo. of 360 pages, illustrated. Philadelphia and London: W. B. Saunders Company, 1915. Cloth \$1.50 net.

"The object of this book is to guide the student or practitioner of medicine in his clinical work, by giving him a ready reference to the important details of examination, diagnosis and treatment of the upper respiratory tract."

It has long been the theory of some teachers to give only such special instruction to students as would cause them to immediately refer the case to the specialist. Such may not have been the primary object of the book, but if the ordinary practitioner depended on the very meager and elementary knowledge contained in this volume, such would be the effect.

There are a few outline woodcuts which serve as illustrations, the type is clear and the paper good, but whether these advantages are enough to justify the publication of the volume seems doubtful.

H. H.

Cancer: Its Study and Prevention. By Howard Canning Taylor, M. D., Gynecologist to the Roosevelt Hospital, New York; Professor of Clinical Gynecology, Columbia University; Member American Society for the Control of Cancer, etc. 12mo, 330 pages. Cloth, \$2.50 net. Lea & Febiger, publishers, Philadelphia and New York, 1915.

Dr. Taylor approaches the problem of cancer by making use of all the knowledge we have so far acquired, giving us a most useful volume for reference, and a concise yet complete presentation of the facts relating to cancer which we now possess.

His chapters on "Precancerous Lesions," "Contagiousness" and "Spontaneous Cures" are very interesting and instructive.

After five preliminary chapters of general information, the remainder of the book is occupied by taking up in detail the consideration of cancer in all anatomical regions; reviewing statistics as to frequency, age, sex, etiology, prognosis, treatment, etc.; each chapter being followed by a list of references.

E. H. W.

A Synopsis of Medical Treatment. By George Cheever Shattuck, M. D., Assistant Physician to the Massachusetts General Hospital. Second Edition revised and enlarged. Cloth. 185 pp. Boston. W. M. Leonard, Publisher. 1915. Price \$1.25.

The second printing of this little book shows

some changes that make a decided difference in its appearance. The binding itself lends dignity. The contents have been changed very slightly since the first appearance of this edition. From the original edition, it is different in many ways. There have been added chapters on the Acute Inflammations of the Upper Respiratory Tract, Diarrhoea, Gastritis, and Constipation. These additions have followed the general plan of the book, namely, the presentation of sound principles of treatment based on known pathology.

As a book for practitioners it is very timely as there is need for just such a book which will bring to the mind the real scientific methods of therapy. The plan of this volume is well arranged. The following points are given: Classification of the Disease; Notes on Pathology and Diagnosis; Methods of Treatment, both general and special; and finally a list of the most useful drugs, with a concise description of dosage, action, indication for use and contraindications, together with a list of the substitutes for each drug.

To the student of medicine this book can be very highly recommended. Of course there are many points not included in its 185 pages but one may be sure that whatever is found in this concise volume is as accurate as medical science can make it.

W. W. B.

John Shaw Billings, A Memoir. By Fielding H. Garrison, M. D. Illustrated. Published by G. P. Putnam's Sons, New York and London. 1915. Price \$2.50.

This interesting biography of one of our own "Masters of Medicine" tells, simply and entertainingly, of the multitudinous activities in which Dr. Billings engaged during his long and useful life. The reader follows the subject of the volume through his early boyhood and youth, his service as army surgeon during the Civil War, in the Surgeon General's Library at Washington, at the Johns Hopkins Medical School and in the New York Public Library and is amazed at the amount of work accomplished and the quality of the finished product. It seems hardly credible that so much good work could have been crowded into the space of one lifetime, for any one of his three great labors would be considered as a sufficient life work for a man of even extraordinary capabilities.

In the compass of 432 pages the compiler has brought together, in easily readable form, much valuable information concerning the several public enterprises to the successful completion of which Dr. Billings devoted his time and energies. Numerous letters written while he was attached to the army in the field make interesting reading at this time and many observations made by this keen analyst regarding the care of the wounded and on many other topics connected with war in general will hold as good to-day as they did then.

The book can be read by any person, lay or professional, with interest, but to the young especially it is to be recommended as a source of inspiration, for every page sets forth the greatest of all truths: "Sufficient to the day is the labor thereof," and by example teaches that each day has its duties and that only by a conscientious performance of these as they arise will the sum total be worth while.

T. G. I.

Clinical Diagnosis. A Manual of Laboratory Methods. By James Campbell Todd, M. D., Professor of Pathology, University of Colorado. Third edition, revised and enlarged. 12mo of 585 pages with 176 text illustrations and 13 colored plates. Philadelphia and London: W. B. Saunders Company, 1914. Cloth \$2.50 net.

Dr. Todd has divided his book into an Introduction, which deals with the use of the Micro-

scope, and ten chapters dealing in succession with the Sputum, the Urine, the Blood, the Stomach, the Feces, the Animal Parasites, the Miscellaneous Examinations, the Bacteriologic Methods, the Preparation and Use of Vaccines, the Serdiagnostic Methods, and following an Appendix which deals with Apparatus, Reagents and the Stains; Weights, measures, etc., with Equivalents, and lastly an Index.

The Introduction gives a student many pointers in the use of the microscope which should be read by all who use the instrument.

The contents of the book is complete enough for a Clinician and the methods are rather thorough. Purdy's methods are spoken of frequently but each worker has to make his own standards as there is much to consider in these tests. The Index is good.

R. B. T.

Exercises for Women. By Florence Bolton, A. B., Director of Women's Gymnasium, Stanford University, 1904-05. (Containing helpful suggestions on matters directly and indirectly related to exercise and development, and an appendix with a wider range of work, briefly tabulated, for the use of teachers. Fully illustrated with over 100 cuts and halftones.) With illustrated details of mat exercises. Funk & Wagnalls Company, New York and London.

A variety of treatises on exercise as applied to the maintenance of health and the treatment of disease have from time to time been published both in this country and in Europe. As a rule, they are presented as parts of larger works including mechano-therapeutics, massage, etc. Their defect is that too frequently they say the little that they have to say at such length the busy practitioner cannot find the time to sift the kernels of desired information from the chaff of their verbiage.

It is with added pleasure, therefore, that we take this opportunity to direct the attention of the readers of this journal to Miss Bolton's unassuming little book. There are but 141 pages in all, but it has seemed to us that the elimination of a single one of them would have been a loss to the book as a whole. The illustrations are for the most part diagrammatic, are placed contiguous to the appropriate text, and accurately illumine it.

In a paper which appeared in the Boston Medical and Surgical Journal Dr. Bradford, Dean of Harvard Medical School, speaks of the modern woman who, with a relaxed pelvic floor, is constrained to undergo an operation and protracted invalidism; whereas her grandmother in like circumstances had divested herself of her corsets and scrubbed the kitchen floor, and in so doing had found the cure for her condition.

There is reason to believe that no small percentage of those chronic invalids, in the attention to whose ailments your sympathetic specialist doth fatten and grow rich, do not require so much that a tuck be taken in relaxed tissues as that the latter be made to reacquire their lost tone. And it is in the care of just such cases as well as many others that your general practitioner, and mayhap your gynaecologist as well, who is not merely an operator, will find "Exercises for Women" a veritable "vade mecum."

It is a peculiarity of the mysticism with which the practice of medicine is invested in the lay mind that did one today prescribe several pints of Spring Valley to be ingested in the course of 24 hours, the majority of patients would not follow our instructions. On the other hand, should one prescribe an expensive mineral water, particularly if it had an odor suggesting an ancient egg, the same persons would obey orders to the letter.

In like manner, while to prescribe a course of floor-scrubbing would be to incense our patient, she

will be found amenable to a plan involving carrying out groups of exercises which give the same result.

Such exercise groups, and many others, for we have spoken of but one application of the book, will be found briefly described, adequately illustrated, accurately dosed and clearly indexed in the book before us.

We gave the book to read to a lady whom, being married to her, it were fruitless to attempt to impress with our wisdom. "Why," said she, after reading it, "it's all so simple." That is what we have tried to say in the preceding paragraphs.

J. T. W.

The Clinics of John B. Murphy, M.D., at Mercy Hospital, Chicago. Volume IV, Number V, (October 1915). Octavo of 228 pages; 56 illustrations. Philadelphia and London: W. B. Saunders Company, 1915. Published Bi-Monthly. Price per year: Paper, \$8.00; cloth, \$12.00.

Contents.

Carcinoma of gum and of submaxillary lymph-nodes. Excision cancer-bearing area.

Carcinoma of tongue and of submaxillary lymph-nodes. Amputation tongue.

Cicatrical contracture of neck following a burn. Resection scar and interposition of a flap of normal skin.

Recurrent luxation of humerus. Capsulorrhaphy.

Subcoracoid luxation of head and fracture of surgical neck of humerus. Operative reduction maintained by plating.

Gunshot wound of arm. Cicatrical compression of ulnar nerve-release; division of median nerve. Neuroorrhaphy.

Fracture of humerus, lower end. Fracture of ulna, olecranon process. Laceration of ulnar nerve. Operative reduction of fracture. Arthroplasty of elbow-joint.

Ununited fracture of internal condyle of humerus. Reduction of displaced fragment and retention of extra-articular drilling.

Ancient fracture-luxation of elbow-joint. Resection. Arthroplasty.

Ancient fracture of elbow-joint (olecranon process). Resection of olecranon process.

Fracture of radius and ulna. Non-union of radius. Intramedullary and inlay transplants.

Ancient fracture of radius and ulna. Division of ulnar nerve. Neuroorrhaphy.

Empyema of pleural cavity. Resection of ribs (Estlander).

Pericholecystic and pericolonic adhesions. Relapse. Omentoplasty; obliterative appendicitis and pylorospasm. Appendicectomy.

Tuberculosis of Fallopian tubes. Resection; retroversion of uterus. Correction; suppurating dermoid cyst.

Sarcoma of ovary. Ablation.

Pyonephrosis. Incision and drainage. Subsequent nephrectomy.

Ureteral calculus. Ureterotomy. Removal of Calculus.

Retroperitoneal Sarcoma. Exploratory Laparotomy.

Inoperable recurrent carcinoma of nasopharynx involving both superior maxillae, ethmoid, frontal and malar bones. Injection of mixed tonins. Disappearance of neoplasm under five weeks of treatment.

Metastatic arthritis of knee-joint. Vicious flexion-contracture. Tenotomy of biceps femoris with correction of deformity. Talk on autosensitized autogenous vaccines.

Ancient infection of hip-joint; secondary flexion.

Contracture of knee-joint from burrowing abscesses in thigh muscles. Operative correction. Tenoplasty.

Tuberculosis of knee-joint. Resection by the author's concavoconvex method.

Painful stumps of legs. Reamputation. Excision of neuromata. Neurorrhaphy.

Pott's fracture with eversion deformity: non-union of tibial malleolus, united fracture of fibular malleolus, and posterior luxation of ankle. Operative reduction of deformity.

SOCIETY REPORTS

COOPER CLINICAL SOCIETY.

You are cordially invited to attend the meeting of the Cooper Clinical Society, which will be held on Monday, December 6, 1915, at 8 p. m., Room 311 of the Stanford University Medical School, corner Sacramento and Webster streets.

Program.

(1) Case of Pulsating Exophthalmos. Ligation of Common Carotid. George T. Brady.

(2) The Prophylaxis of Procidencia (Lantern Demonstration). A. B. Spalding.

(3) The Use of Whole Blood in the Treatment of Hemorrhage. H. R. Oliver.

H. E. ALDERSON, President.

J. D. BARNETT, Secretary.

FRESNO COUNTY.

At the October meeting of the Fresno County Society Dr. Dagmar Peterson, of Selma, was elected to membership; report of the next meeting of the State Society at Fresno was made, and a case of polypi of the rectum was reported by Dr. George H. Aiken.

CLIFFORD D. SWEET, Assistant Secretary.

CITY AND COUNTY OF SAN FRANCISCO.

Department of Public Health.

October 25, 1915.

Trachoma appears to be prevalent in this city among children of a school age. Several cases attending various schools during the past month have come to the attention of the Board of Health, and one case in particular upon investigation we found being treated at an eye clinic and during the interim of treatments was attending the public schools.

I have to call your attention to the fact that Ordinance 1034 of this city, as well as the State law, makes trachoma a reportable disease, and the Board of Health asks your earnest co-operation requesting that all cases of trachoma, particularly in children, be made the subject of a special and immediate report. This co-operation will be not only a means of bringing under control the disease, but also a factor in preventing its spread among other children.

The number of children of foreign parentage attending our schools is increasing annually, and the importance of maintaining a strict vigilance in connection with the preventable diseases is obvious.

Trusting you will give this matter your earnest attention, I am respectfully,

WM. C. HASSLER, Health Officer.

LOS ANGELES COUNTY EYE AND EAR SECTION.

A regular meeting of the Eye and Ear Section was held in the offices of Drs. Hastings, Fleming and Montgomery, on October 4, 1915.

Attendance: Drs. F. L. Rogers, Bullard, Brown, Dudley, Dilworth, Fleming, Hastings, Kiefer, Kel-

sey, Lund, G. W. McCoy, T. J. McCoy, F. W. Miller, Stivers, Sweet, Stephenson, True, Reynolds, Graham, Ide, Griffith, Leffler, Kress and Old.

Visitors: Drs. Gage and Swetnam.

Dr. T. J. McCoy reported a case of "Iridectomy."

Discussion by Drs. Dudley, F. W. Miller and Bullard.

Dr. W. H. Dudley, case of "Cancer of Larynx" shown twice before. Man had gone East. Disease has spread and sloughing has taken place. Also case of Tbc. larynx treated by Tuberculin T. R. with improvement. Discussion by Drs. F. L. Rogers, Lund, Hastings, Fleming, Dilworth, Geo. W. McCoy.

Dr. Kiefer reported case of Parotitis and Empyema of the Parotid; the only symptoms presented were the stickiness of the larynx, pharynx, nose, etc., on account of the thick mucous secretion. Relieved by free incision of the Parotid gland. Empyema, only symptoms objective, pus from nose and tenderness over the Antrum of Highmore.

Discussion: Dr. G. W. McCoy asked if, in Dr. Kiefer's opinion, the incision of the parotid cured, or was it due to the medication? Answer: Incision. Dr. Hastings: Was there any calculus? Answer: No.

Dr. A. L. Kelsey reported case (specimen) of splinter of steel from an anvil removed from eye of child of 4 years. Magnet, small, did not move object; giant magnet removed it all right. Periphery of lens was injured, but no glaucoma is looked for.

Dr. T. J. McCoy: Was object localized by X-ray? Answer: No.

G. W. McCoy said localization seemed almost imperative in many cases.

Dr. F. L. Rogers, in discussion, mentioned two cases showing the benefit of localization.

Dr. G. J. Lund showed a case of cosmetic operation on nose, hump on nose and external deformity operated on by external incision; lineal scar, but no stitch-hole scars resulted. The skin clips were used.

Dr. T. J. McCoy showed an eye case—a tumor developing in eye of man aged 62, starting from conjunctiva, involving cornea periosteum and bone.

Discussion by Dr. F. W. Miller. He said many similar cases began in Papilloma; advised guarded diagnosis and prognosis. Dr. Dudley said most of the tumors beginning at cornea-scleral junction are malignant; advised section of the specimen and microscopic examination of specimen to show whether tumor extended internally.

Dr. G. W. McCoy reported case of streptococcal lateral thrombosis in a child with colitis, running ear, etc. Streptococci were found in the blood by Drs. Brem and Zeiler; streptococcal vaccine, autogenous given, with good results.

Discussion—Dr. Lund: How do you account for the pulsation of the vein, if it was thrombosis? Answer: Communicated from the brain; a pulsation from the brain.

Dr. Hastings: Was it that or primary jugular bulb thrombosis? Answer: Don't know.

Dr. Dudley: Had a similar case.

Dr. Stivers reported three cases. First, ozena of larynx, primary; second, foreign body from nose; third, tumor of palate.

Dr. McCoy said Ozena case rare.

Dr. Sweet, of Long Beach, advised a meeting devoted to discussion of Ozena. Met a case of Sarcoma with similar symptoms to Dr. Stivers' palate case.

Dr. Leffler: Was heart and urine examined? Answer: Yes, negative.

Dr. Lund advised intra-tracheal injections; oil and menthol recommended.

Dr. F. L. Rogers: Bronchoscope should be used.

Dr. Fleming: Rare to see such cases in this country. This case has some atrophic conditions in nose. Peroxide of hydrogen is satisfactory in

such cases. Put it right into larynx. Observe absolute cleanliness. Stick to the treatment.

Dr. Graham reported an eye case—cataract.

Discussion: Dr. F. W. Miller said he thought many such cases are often latent specific trouble.

Dr. Ide reported recurrent Papilloma of Inf. Turbinate. Healed perfectly after X-ray for three or four months. Also case of Tubercular Epiglottitis. Also two plates showing impacted molar wisdom teeth buds, after removal of which furuncles were cleared up promptly.

Dr. Old reported a case of foreign body removed from ear after 20 to 25 years.

Election of members: Dr. Swetnam was elected to membership.

Certain changes in the manner of electing members were adopted as a part of the by-laws in conformity with similar regulations existing in the County Medical Association.

C. G. STIVERS, Secretary.

MENDOCINO COUNTY.

On October 29th, at the call of the President, Dr. L. C. Gregory, a meeting of the Mendocino County Medical Society was held at Mendocino, in the office of Dr. Frank C. Piersol. Members present: Drs. L. C. Gregory, Fort Bragg; Frank C. Piersol, Mendocino; Homer H. Wolfe, Albion; Herschel O. Cleland, Ukiah, and Oswald H. Beckman, Fort Bragg.

Dr. Herschel O. Cleland read a very interesting and instructive paper on "Modern Improvements in Surgery." Among the many excellent things brought forward in this paper, the Doctor especially emphasized that of anesthesia as now produced compared with the times of yore. After a general discussion the society extended Dr. Cleland its vote of thanks.

Dr. Piersol exhibited a very interesting case of angular fracture of the radius and ulna at their junction of the middle and upper thirds. This exhibit, with its complications, gave food for a very interesting general discussion.

Dr. Beckman read a paper entitled "Industrial Accident Insurance," which was discussed generally and declared interesting.

The meeting then adjourned to meet again at the call of the President.

Afterward Dr. Piersol conducted the members to an excellent repast, for which those banqueting extend to him their sincere and fraternal thanks.

OSWALD H. BECKMAN, Secretary.

SAN BERNARDINO COUNTY.

The following is a list of the new officers of the San Bernardino County Medical Society elected at our annual meeting, held here on October 5th: President, Dr. C. G. Hilliard, Redlands; First Vice-President, Dr. P. M. Savage, San Bernardino; Second Vice-President, Dr. J. H. Evans, Highland; Secretary-Treasurer, Dr. Carroll C. Davis, San Bernardino.

Please pardon the delay in sending in this report. I was under the impression that it had been sent you by the retiring secretary.

CARROLL C. DAVIS, Secretary.

SAN JOAQUIN COUNTY.

The regular monthly meeting of the San Joaquin County Medical Society was held at the County Hospital at French Camp, Friday evening, Oct. 29. The following members were present: Drs. R. T. McGurk, Wm. Friedberger, C. E. Stagner, J. D. Dameron, W. J. Backus, B. F. Walker, F. W. McKibbin, E. A. Arthur, Mary Taylor, Margaret Smyth, Minerva Goodman, H. E. Sanderson, S. E. D. Pinniger, Kendall, L. Dozier and D. R. Powell,

with Drs. Koebig of Riverbank, Sprague and Edgerton of Stockton and Griffin of Tracy as guests.

Dr. Kendall of the County Hospital staff discussed the experiences they had had with intravenous methods of medication, stating specifically the use of quinine hydrochloride in malaria, and salvarsan and tridylate in lues, and the use of large doses of antitoxin in diphtheria. The results obtained were very great and very successful and a big argument in favor of intravenous medication.

Dr. Friedberger presented a case of compound fracture of leg bones in which plates had been successfully used in face of suppuration. He also recited a case of gunshot wound through the thigh involving the bone, and asked for discussion as to the best form of treatment.

Dr. Stagner presented two cases addicted to the morphine habit who were undergoing the Lambert cure. He also presented a most interesting case of sarcoma of the uterus, which had brought up very difficult problems in differential diagnosis between tumor and pregnancy.

After general discussion, the meeting adjourned to enjoy a most delightful repast.

DEWEY R. POWELL, Secretary.

SANTA CLARA COUNTY.

The Santa Clara County Medical Society, on the evening of November 15, had a meeting exclusively for social purposes. A delightful banquet had been prepared at the Hotel Vendome, San Jose; and something over forty members attended. Senator Benson and Senator Jones were present, and also Dr. Philip Mills Jones. Senator Benson and Senator Jones discussed medical legislation and public health legislation from the standpoint of the legislator, and Dr. Jones spoke on the same subjects from the standpoint of the physician and the State Medical Society. He also called attention to the very undesirable carelessness of many physicians in criticizing the results of other physicians' treatment or work. The question of the increasing number of suits for damages for alleged malpractice was also touched upon, and the necessity for a close and harmonious organization was thoroughly emphasized. During the dinner and between the speeches the guests were entertained by the Hawaiian Orchestra from the Exposition. The meeting was in every way a satisfactory one. Dr. Simpson made a delightful toastmaster.

Social gatherings of this kind in county medical societies do a world of good, as they bring together under the most happy circumstances physicians who seldom meet.

TUBERCULOSIS SOCIETY.

Miss Edna D. Porter has been added to the staff of visiting nurses of the San Francisco Association for the Study and Prevention of Tuberculosis, according to a statement issued from Association headquarters, 1547 Jackson Street.

The report of the Jackson Street Clinic for October shows that on the first of the month there were 256 patients under treatment; that at the end of the month there were 294, a gain of 38 during the month.

The report of the Stanford Tuberculosis Clinic, on Sacramento and Webster Streets, shows that on the first of the month there were 64 patients under treatment, and on the last of the month 74, a gain of 10. The total attendance at both clinics during the month was 444.

The visiting nurses of the Association made 469 calls on patients or on their behalf, and spent 234 hours in the clinics.

The National Association for the Study and Prevention of Tuberculosis has designated Monday, December 6th, to Sunday, December 12th, as "Tuberculosis Week." The local Association has under way plans for the celebration of this week, which will be announced at a later date.

DEPARTMENT OF PHARMACY AND CHEMISTRY.

Edited by FRED I. LACKENBACH.

(Devoted to the advancement of Pharmacy and its allied branches; to the work of the Council on Pharmacy and Chemistry of the American Medical Association, and to matters of interest bearing upon therapeutic agents offered to the medical profession. The editor will gladly supply available information on matters coming within the scope of this Department.)

NEW AND NONOFFICIAL REMEDIES.

Since publication of New and Nonofficial Remedies, 1915, and in addition to those previously reported, the following articles have been accepted by the Council on Pharmacy and Chemistry of the American Medical Association for inclusion with "New and Nonofficial Remedies":

Mercurialized Serum, Mulford.—A solution of mercuric chloride in normal horse serum diluted with physiologic sodium chloride solution. It is proposed for the treatment of syphilis, particularly the cerebrospinal type. It is supplied as:

Mercurialized Serum, Mulford, No. 1.—One 30 c.c. ampule containing the equivalent of 1.3 mg. (1/50 gr.) mercuric chloride with rubber tube and intraspinal needle.

Mercurialized Serum, Mulford, No. 2.—One 30 c.c. ampule containing the equivalent of 2.6 mg. (1/25 gr.) of mercuric chloride with rubber tube and intraspinal needle.

Mercurialized Serum, Mulford, No. 3.—A package of ten 30 c.c. ampules each containing the equivalent of 1.3 mg. (1/50 gr.) of mercuric chloride with rubber tube and intraspinal needle.

Mercurialized Serum, Mulford, No. 4.—A package of ten 30 c.c. ampules each representing 2.6 mg. (1/25 gr.) mercuric chloride with rubber tube and intraspinal needle.

Mercurialized Serum, Mulford, No. 5.—8 c.c. mercurialized serum, Mulford, containing the equivalent of 22 mg. (1/3 gr.) of mercuric chloride in a syringe graduated in fourths, with needle.

Mercurialized Serum, Mulford, No. 6.—A package of ten syringes, each containing 8 c.c. liquid which represents 22 mg. (1/3 gr.) of mercuric chloride. H. K. Mulford Company, Philadelphia, Pa. (Jour. A. M. A., Oct. 2, 1915, p. 1185).

Radio-Rem, Outfit No. 4.—An apparatus designed for the production of radio-active drinking water by the action of radium sulphate contained in terra cotta plates. It consists of two plates contained in 250 c.c. bottles; when the bottles are filled with water the two plates impart about 1.8 microcurie (5000 Mache Units) to the water in twenty-four hours. For action, uses and dosage refer to the article on radium in New and Nonofficial Remedies. Schieffelin and Co., New York (Jour. A. M. A., Oct. 9, 1915, p. 1281).

Histamine Hydrochloride.—The hydrochloride of the base beta-aminazolyethylamine (histamine). It is a valuable reagent for the standardization of pituitary preparations.

Imido, Roche.—A name applied to histamine hydrochlorid.

Ampules Imido, Roche.—Each ampule contains 1.1 c.c. of an aqueous 1 in 1000 solution of Imido, Roche (1 c.c. contains 1 mg.). Hoffmann-LaRoche Chemical Works, New York City (Jour. A. M. A., Oct. 16, 1915, p. 1367).

Betanaphthyl Salicylate.—The salicylic acid ester of betanaphthol. It passes the stomach unchanged, but is split into its constituents in the intestinal tract. It is believed to act as an intestinal antiseptic and to act in a similar way in the bladder. It is said to be useful in intestinal fermentation,

catarrh of the bladder, rheumatism, etc. Mallinckrodt Chemical Works, St. Louis, Mo. (Jour. A. M. A., Oct. 30, 1915, p. 1553).

Betol.—A name applied to Betanaphthyl salicylate (which see). Merck and Co., New York (Jour. A. M. A., Oct. 30, 1915, p. 1553).

Items of Interest.

The Soy Bean.—The soy bean is of medical interest: (1) because it contains the enzyme, urease, which converts urea into ammonia and carbon dioxide and hence is used to estimate urea in urine; and (2) because soy bean products have been recommended as foods for diabetics. Street and Bailey of the Connecticut Agricultural Experiment Station, report that although the soy bean contains about 25 per cent. total carbohydrates, only about 8 per cent. composed of sugar, starch and dextrin, may be considered objectionable in a strict diabetic diet. Thus the sugar-forming carbohydrates contained in soy beans fall well within the limit of 10 per cent. regarded as safe for diabetics (Jour. A. M. A., Oct. 16, 1915, p. 1372).

Camphor, Natural and Synthetic.—Though having the same chemical composition, natural camphor is levorotatory while synthetic is optically inactive, it being a mixture of levorotatory and dextrorotatory molecules. Synthetic camphor, used externally and in moderate doses internally, has been reported to have the same effects as natural camphor. The evidence is, however, unsatisfactory. The natural product being readily obtainable, there is no warrant for the therapeutic use of synthetic camphor until more conclusive evidence is at hand (Jour. A. M. A., Oct. 30, 1915, p. 1555).

Lactopeptine and Elixir Lactopeptine.—Lactopeptine is sold under the claim that it contains pepsin, diastase, pancreatin, lactic acid and hydrochloric acid. In 1907 the Council on Pharmacy and Chemistry reported that Lactopeptine was practically inert—"essentially a weak saccharated pepsin," devoid of tryptic activity. An examination made by the Council in 1913 confirmed the previous findings. Nearly four months after publication of the last report, the manufacturers protested against the report claiming that Lactopeptine possessed pancreatic activity and contained "loosely combined" hydrochloric acid. The council now reports that an examination of the market supply demonstrated that a few recently manufactured specimens showed slight (therapeutically negligible) tryptic activity, but that most showed none; the amount of hydrochloric acid was insignificant. Again declaring Lactopeptine and Elixir Lactopeptine ineligible for New and Nonofficial Remedies, the Council points out that, whatever the tryptic activity of the mixture, it is therapeutically useless. Mixtures of pepsin and pancreatin are irrational. The two substances are not indicated in the same conditions nor can they act together. Under physiologic conditions such mixtures are chemically impossible. In a liquid medium the two substances destroy each other (Jour. A. M. A., Oct. 23, 1915, p. 1477).

A Therapeutic Absurdity.—Lactopeptine, whether in the form of an elixir, powder or tablets, is a therapeutic absurdity. Even if fresh specimens of the powder, possessing slight tryptic activity, have any advantage over old ones, there is no way of telling which the patient is likely to get, for the trade packages of Lactopeptine are undated. In liquid preparations like Elixir Lactopeptine, pepsin and pancreatin destroy each other (Jour. A. M. A., Oct. 23, 1915, p. 1466).

The N. F. Imitation of Elixir Lactopeptine.—Nearly forty years ago the essential worthlessness of Lactopeptine was brought to the attention of the pharmaceutical profession. In spite of this knowledge the pharmacists have included imitations of Lactopeptine and Elixir Lactopeptine in the National Formulary under the titles Compound

Powder of Pepsin and Compound Digestive Elixir. The N. A. R. D. Journal, devoted to the business rather than the professional side of pharmacy, defends the Compound Digestive Elixir on the ground that "physicians keep right on prescribing it." The pharmaceutical profession should consider that pharmacists will in the end lose the confidence of the medical profession and the public by the tolerance of worthless pharmaceuticals (Jour. A. M. A., Oct. 23, 1915, p. 1467).

Some "Patent Medicines" for External Application.—The following statements of composition are indicated by the reports of various state boards of health, the government chemists and the A. M. A. Chemical Laboratory: Amarol, a "complexion beautifier," is composed of Epsom salt 95 per cent. and borax 5 per cent. Anti-Freckle Lotion (Gustin's) contains mercuric chloride 1.5 per cent., alcohol 2 per cent. and water 96.5 per cent. Calocide, for "foot trouble," is sodium chloride 22.44 per cent., borax about 37.58 per cent., alum about 39.35 per cent., tannin small amounts. Cerol, which "cleans and clears the skin," is boric acid, stearic acid and perfume. Clearola, which will "whiten the skin," is sulphur. Cuticle Acid, to "remove dead skin," is alcohol 10 per cent. and oxalic acid 2 per cent. Derma-Royale for skin affections, is a dilute alcohol-glycerin solution with small amounts of camphor, myrrh, benzoin and possibly other aromatics in suspension. Eptol, a wrinkle remover, is essentially borax 37 per cent., soap and stearic acid 63 per cent. Fatoff was found to be essentially soft soap. Gloriot Balm, a vanishing toilet cream, is composed of stearic acid, soap and borax. 23.7 per cent., water 76.3 per cent. Gloriot Glowene, said to be a substitute for soap, is soft soap. Zemo, for eczema, pimples, dandruff and similar affections, appeared to be a watery-alcoholic solution containing methyl salicylate, thymol, borax, tannic acid, glycerin, menthol and a phenol-like body (Jour. A. M. A., Oct. 16, 1915, p. 1365-7).

Somnoform.—This was originally composed of ethyl chloride 60 per cent., methyl chloride 35 per cent. and ethyl bromide 5 per cent. Now it is said to contain but 1 per cent. ethyl bromide. Like ethyl chloride, Somnoform has been used as a substitute for nitrous oxide before ether anesthesia and for short operations, but has been mostly used by dentists for extractions. It is doubtful if the mixture has any advantage over ethyl chloride. The mortality is less than that of chloroform, but twice that of ether and four times that of nitrous oxide (Jour. A. M. A., Oct. 16, 1915, p. 1391).

Iodum-Miller.—The A. M. A. Chemical Laboratory reports that Iodum-Miller was found to be essentially a solution of iodine and potassium iodide in glycerin containing 1.68 per cent. of free iodine. The Council on Pharmacy and Chemistry reports that Iodum-Miller was not eligible for New and Nonofficial Remedies because incorrect statements are made in regard to its composition; because unwarranted therapeutic claims are made for it; and because the application of a trade name to a simple solution of iodine is not to be countenanced (Jour. A. M. A., Oct. 2, 1915, p. 1202).

JOURNAL OF CUTANEOUS DISEASES.

Beginning with the January, 1916, number, The Journal of Cutaneous Diseases, including syphilis, will be published for the American Dermatological Association by W. M. Leonard, of Boston. Each number will contain 80 pages, and as far as possible be of interest and value to the general practitioner as well as to the dermatologist.

GEORGE M. MacKEE, M. D., Editor.

PEACHES PEELED BY LYE NOT INJURIOUS TO HEALTH.

In spite of the idea held by many people that lye-peeled peaches are injurious to health, Profes-

sor M. E. Jaffa, Consulting Nutrition Expert of the California State Board of Health, says that they are no more injurious than hand-peeled fruits. Except for the marks of the knife on the hand-peeled product, it is impossible to distinguish one from the other. Food value, flavor and quality are unchanged.

The process of peeling fruit by immersing it in hot lye, afterward washing several times with cold water, is used in many canneries throughout the State. The method is rapid and economical. Yet some people will not eat fruit that has been peeled by this process, fearing that it may be injurious to health. No question has been raised, however, concerning the use of the same process in preparing prunes for the market.

Analyses have been made in order to learn if the acidity of the lye-peeled peach is less than that of the hand-peeled peach, and it was determined that the lye process does not affect the acidity of the finished product. The housewife, then, may be assured that canned peaches, peeled by this process, are wholesome and that there is nothing in them that may be injurious to health.

THE AUTOLYSIN TREATMENT OF CANCER.

Richard Weil, New York (Journal A. M. A., Nov. 6, 1915), reviews the results of the Horowitz treatment of cancer, as carried out by Dr. Beebe in the General Memorial Hospital in New York City. In accordance with a well-defined policy of the hospital which approved the test of proposed therapeutic measures in cancer, Dr. Beebe was permitted to make a trial, he stating that he was in possession of complete knowledge of the composition and formula. Dr. Beebe was given the privilege of applying the treatment in a considerable number of cases, under the general clinical supervision of Dr. Weil. Only such cases were taken as could not be helped materially by other means available. In nearly all the cases the patients were given the benefit of radium or Roentgen-ray treatment in addition to the autolysin method. That all the patients were moribund or in a very serious condition was not the case. Some of the patients put in Dr. Beebe's hands were in apparently good physical condition, though the nature of their ailment, as often happens in cancer, made successful treatment by other methods impossible. If the treatment had any real value it should have been shown in such cases. Since Jan. 1, 1915, twenty-three cases have been treated in the wards of the hospital with autolysin by Dr. Beebe. Of these, fourteen patients died in the hospital and eight were discharged unimproved. Only one is at the present, to the best of Weil's knowledge, in a condition that could be considered an improvement over that at the time of his admission. Although the general outcome of the cases was not affected by Beebe's treatment, the clinical course was somewhat altered. The method caused, when injections were made into the tumors, suppuration and sloughing as is characteristic of irritant or destructive substances in such cases and did not in this constitute any advance over former methods. Subcutaneous injections given distant parts of the body were followed sometimes by improvement in the appearance of ulcerated tumors but no greater than that seen to follow the ordinary surgical dressings usually employed in such cases, and to these Weil attributes the temporary change for the better. The more general good effects claimed by Beebe from autolysin, such as relief of pain and insomnia, and increase of appetite, were what might be looked for, Weil claims, by the hopefulness aroused by a lauded new remedy. Contrasted with such occasional effects is another set of results, very inadequately mentioned by Beebe in his articles. Half the patients at least were most unfavorably affected by the local injections. The pain was often so severe that the patients refused to accept the treatment.

The swelling often gave distress and in two instances the treatment appeared to be responsible for an almost fatal hemorrhage, and these unquestionably outweighed the very questionable advantages claimed. Weil discusses particularly two of the cases published by Beebe in which all the improvement observed is, he suspects, due to the simultaneous Roentgen-ray treatment, which often gives brilliant, if temporary, results. He deplors the publicity used as leading to hopes that cannot be realized, causing useless expense and long and painful journeys to receive treatment. His own personal belief, based on observation, is that autolysin treatment is useless and liable to do damage rather than good. The article is illustrated.

FULL-TIME HEALTH OFFICERS.

The necessity of health officers giving their full time to their official functions is pointed out by J. W. Kerr, Washington, D. C. (Journal A. M. A., Nov. 6, 1915). In this country he says the health service has been a plant of slow growth, stimulated mainly by epidemics. The funds appropriated have been too inadequate and the conditions all over the land have been bad. In Kansas, for instance, there were no full-time health officers prior to the present year, and in Illinois, with the exception of the city of Chicago and La Salle, Peru and Oglesby, which have joined forces, there are, so far as reported, no full-time health officers at present, and only 106 paid health officers in the state, some of these receiving only \$5 a year. While local health administration should be the strongest defense against disease, it is in reality the weakest in our national resources. The federal or state governments cannot be expected to act locally except in special emergencies and normally should only exercise advisory and supervisory control as regards local matters. Authority has been dissipated and intrusted to separate boards and commissions to the damage of public health in general. It would be advisable to have more joint action between communities, several jurisdictions combining to support health officers that can give all their time, and only this will give us efficient local health administration. In Germany, he says, he found by inquiry that the imperial government, while authorized to act, had found it unnecessary because of the efficiency of the local health authorities. Recent legislation in several states is reviewed by Kerr and some progress has been made toward having efficient local health boards, especially in certain states, such as North Carolina and Massachusetts and in proposed legislation in others. Such legislation should be encouraged.

THE COMMANDMENTS GOVERNING THE RELATIONS OF THE PUBLIC WITH THE DOCTOR.

The medical society of Frankfort has elaborated ten commandments or rules to govern the relations of the public to the doctor. These rules have been printed and the doctors are asked to distribute them among their patients and to post them in their waiting rooms. The rules are as follows:

1. Do not call the doctor unnecessarily for trivial illness, and do not wait too long in the case of serious illness or until the illness has reached such a stage of severity that it is imperative to call the doctor. Much valuable time may be lost by delay in securing medical assistance.
2. If your condition permits, consult the doctor during his office hours and do not ask him to come to you. Some examinations can be made only in the doctor's office, where certain instruments which cannot easily be transported are kept.
3. If you have decided that you will call the doctor, inform him to that effect before he leaves

his home to make his calls; that is, before 9 o'clock in the morning. The doctor must lay his plans for the day's work ahead of time, and if you wish to assure yourself of an early visit, send in an early call.

4. Do not ask the doctor to call at a certain hour, but leave the time for making a visit to him, if your case is not urgent or not an emergency case which demands an immediate response to your call. The doctor is never master of his time, and it is very difficult for him to make a visit at a certain time. The business man should not expect his doctor to time his call at the noon hour when the former can leave his business and be at home. If he cannot consult the doctor during office hours, he should go home and remain there until the doctor can come to see him.

5. Do not ask the doctor to come immediately when it is not necessary. Such a visit, being an emergency visit, is combined with great inconvenience and loss of much time, as it interferes with other work. At the same time, other patients who should be visited first are slighted thereby.

6. Never call the doctor at night except in an emergency case. The doctor is human, and like every other man must have his rest. A tired, worried and overworked doctor, one who is frequently disturbed in his sleep, naturally cannot render such efficient service to his patient as he could if his rest were not broken so much.

7. On Sunday the doctor should be allowed to rest. No demand should be made on his time, except when his services are absolutely needed.

8. If a doctor is needed to answer an emergency call, please do not notify more than one man at the same time. If, in the confusion of the moment, more than one doctor has been called, countermand multiple calls as soon as possible.

9. When the doctor is expected, please have everything ready for him so that time will not be lost. Above all things, do not expect the doctor to wait to see you, but have your room and yourself in readiness to receive him. Have water, soap and towel in readiness for him, likewise pen and ink and anything else that might be needed by him, to avoid delay.

10. Do not detain the doctor unnecessarily during his office hours. Other patients are waiting to see him, each in his turn, and lost time may be a valuable item for them. Furthermore, other patients are awaiting the doctor at their homes. Female patients should be prepared to submit to any examination with as little loss of time as possible, and be so dressed that they can leave the office quickly and without the assistance of a maid.—Journal A. M. A.

THE NOVEMBER MEETING OF THE STATE BOARD OF HEALTH.

The State Board of Health met at the office of the Board in Sacramento on November 6. The members present were Dr. George E. Ebright, President; Dr. Fred F. Gundrum, Vice-President; Dr. Edward F. Glaser, Dr. Adelaide Brown, Dr. Robert A. Peers, and Dr. Wilbur A. Sawyer, Secretary.

On account of the marked increase in the work of the Bureau of the Hygienic Laboratory and the variety of its functions, the name of the Bureau was officially changed to the more correctly descriptive title, Bureau of Communicable Diseases, by the following resolution:

Resolved, That the State Hygienic Laboratory may be designated, in the public and private communications of the Board, as the Bureau of Communicable Diseases.

The position of Director of the Bureau of Communicable Diseases, formerly known as the Bureau of the Hygienic Laboratory, was filled by the ap-

pointment of Dr. James Gordon Cumming, M. D., Dr. P. H., of Ann Arbor, Michigan. Dr. Cumming will enter upon the duties of his office on January 1, 1916. The central office of the Bureau is on the campus of the University of California at Berkeley.

In accordance with legal advice to the effect that the State Board of Health has no jurisdiction over the sanitation of sea-going vessels, even if they are engaged only in interstate commerce, it was decided to refer all complaints or other matters pertaining to sanitation on such vessels to the United States officials.

Two instances of arrest and prosecution of alleged violators of the Board's regulations regarding the control of diphtheria carriers were brought to the attention of the Board. In one case the fact of the violation could not be proved by the local authorities and in the other the defendant pleaded guilty.

The Board offered to distribute cards of advice to persons suffering from venereal diseases, through those health departments, clinics, and organizations which wish to co-operate. The cards give directions regarding the prevention of spreading the disease.

The Secretary and the Attorney to the Board, Mr. Kemper B. Campbell, were instructed to work out a plan for co-operation between the United States District Forester and the State Board of Health in placing warning placards regarding stream pollution in the National Forests and enforcing sanitary laws and the regulations of the State Board of Health.

On the recommendation of Mr. C. G. Gillespie, Director of the Bureau of Sanitary Engineering, a temporary permit was granted to the City of Redding to discharge sewage into the Kings River, on the conditions that they so levee and sand-bank the river as to prevent any direct inflow of sewage into the river, and that they chlorinate the pond of sewage before the high stage of the river is reached. Plans were made for an early and complete investigation relative to the request of the city for a permanent permit.

A complaint regarding the sewer farm of the City of Chico was received and referred to the Bureau of Sanitary Engineering for investigation.

In accordance with the recommendation of the Director of the Bureau of Sanitary Engineering, a permit was granted to the City of Pittsburg to discharge sewage into New York Slough.

Resolutions passed by the City Trustees of Redding, calling attention to the pollution of the Upper Sacramento River, were presented to the Board. The Board instructed Mr. Gillespie, Director of the Bureau of Sanitary Engineering, to investigate.

The Board asked Mr. Gillespie to submit to the Board at the next meeting a classification of the streams of California, on a sanitary basis, as complete as the present available data will warrant.

A resolution was passed refusing to permit the discharge of sewage into Lake Tahoe, even after chlorination, as there are other practical methods of disposal. It was reported to the Board that the summer resorts sewerage into the lake are making preparations for other methods of sewage disposal in accordance with the recommendations of Sanitary Inspector Ross and Chief Engineer Gillespie.

A plan submitted by Mr. George D. Leslie, Director of the Bureau of Vital Statistics, for detecting failures to report births, was adopted by resolution, and the Secretary was instructed to enforce the law against physicians and others who fail to report births.

A poster to be required in connection with the transportation of bodies was submitted to the Board by the State Board of Embalmers, and after minor changes, was adopted by the State Board of Health.

Plans for the distribution of the state tuberculo-

sis subsidy to county hospitals were presented, discussed, and amended. It was decided to place special emphasis, in the requirements for accrediting tuberculosis hospitals, on the diet and care of the patients. The Board agreed, moreover, that attention must be given to the extent of the need in the county, and that county tuberculosis hospitals of highly expensive construction with small bed capacity and a long waiting list would not be approved. It was decided that Boards of Supervisors contemplating the building of tuberculosis hospitals or wards should submit plans in advance if they desire to receive the subsidy.

The report of the Committee on Tuberculosis, appointed to organize the Bureau of Tuberculosis, was presented by the Chairman, Dr. Adelaide Brown, and was accepted, and the committee was discharged.

In accordance with the recommendation of the Director of the Bureau of Registration of Nurses, the following applicants, having complied with the regulations of the Board, were registered as Registered Nurse: Attalee May Buckingham, Lucy F. Conway, Katherine L. McKenna.

The following hospitals, after inspection, were re-accredited for one year, on the recommendation of the Director of the Bureau of Registered Nurses: County Hospital, San Diego; East Bay Sanitarium, Oakland; Riverside Hospital, Riverside; Samuel Merritt Hospital, Oakland. The Providence Hospital, Oakland, was accredited for one year.

Several large lots of frozen eggs in cold storage in Los Angeles, previously placed under quarantine by the State Board of Health, on the recommendation of Mr. E. J. Lea, Director of the Bureau of Foods and Drugs, were declared unfit for human consumption and were ordered destroyed.

After extensive investigation, and on the recommendation of the Director of the Bureau of Foods and Drugs, sixteen hundred barrels of tomato pulp, in quarantine at San Leandro, were declared unfit for human consumption and ordered destroyed.

A communication from the State Industrial Accident Commission, offering co-operation in the investigation of hookworm disease in the mines was considered, and the Secretary was instructed to arrange for a conference with the Commission to complete plans for an early investigation.

The Secretary was authorized to start a collection of lantern views and moving picture films for use in popular public health instruction.

Licenses to operate cold storage warehouses were granted to the following firms: Brandt Brothers, Healdsburg, and the Cudahy Packing Company, Los Angeles.

The next business to come before the Board was the consideration of those violations of the food and drug laws which had been set for hearing on this date. Cases were decided upon their merits, and where prosecution was indicated, they were referred to the District Attorney.

WILBUR A. SAWYER, Secretary.

A CLINICAL PILGRIMAGE IN WAR-TIME.

The Children's Hospitals of Europe.

Dr. Jno. A. Colliver, of Los Angeles, has recently paid a visit to the clinics of the children's hospitals of Europe, and he records his impressions of these in the August number of the California State Journal of Medicine. Commencing with London, he remarks that here are to be seen children more poorly dressed, poorly nourished, and poverty-stricken than in any other city. The amount of material at the out-patient department of the Great Ormond Street Hospital is so abundant and the assistants so few that examinations are apt to be hurried and superficial. But the

opportunities for clinical study are excellent. Especially is this true of rheumatism and of rickets. In reference to the former of these the frequency of subcutaneous nodules impressed Dr. Colliver, for apparently these nodules are rarely seen in America. Other points noted are the removal of the tonsils by enucleation and the value of the clinical demonstrations in the Children's section of the Royal Society of Medicine. The summing up, however, is rather cruel—"on the whole English physicians are not so accurate in their diagnosis and have a tendency to use more drugs than in other places."

Of Paris the record is confined to a remark on the low morality of the view which is taken of such questions as illegitimacy, prostitution, and so on, and the fact that a girl who has left her situation to give birth to a child may be later on restored to her former position is evidently regarded as a shocking occurrence. This may be, but its record does not give us much information relative to the study of the diseases of children in Paris. Possibly the war has temporarily disorganized this study, and has left the superior morality of the States all the more shining by contrast.

German and Austrian Clinics.

In the German cities great emphasis is placed on hygiene and prophylaxis. At Pfundler's clinic at Munich doctors from many countries were seen, and indeed the assistants were more numerous than the patients. The work is characterized by great thoroughness. The children are well provided with clothing and shoes, if necessary at the cost of the Government, and at the schools there is an interruption of the work for two hours in the middle of the day for food and rest and recreation, a condition which apparently does not obtain in America. In the workingman's museum great attention is paid to the illustration of methods which relate to the preservation of health and to the rearing of healthy children. Again, in the direction of disease prevention the streets are kept scrupulously clean, and the malignant fly is thus deprived of his opportunity. One of the results is seen in the absence of typhoid fever, of which, it is said, only a single case has been known in Munich during several years. This occurred in the house of a dairyman, who as a reward was sent to prison for nine years.

Professor Pirquet's Kinderklinik at Vienna is pronounced to be one of the best equipped and best organized children's hospitals in Europe. Clinical assistants must understand German and must undertake to stay for at least six months. Infectious diseases, such as diphtheria, measles, scarlet fever, and gonorrhoea, are treated in beds separated by glass partitions. Special attention is paid to tuberculosis, and both in winter and summer children are kept on the roof of the hospital, and in the warm weather the only clothing permitted to the child is a hat! The Pirquet test is used as a routine measure, as is also examination by the X-rays. Tuberculin treatment is given twice a week, and impressive results are seen in tuberculous peritonitis and adenitis, as well as in phthisis pulmonalis. Again, illustrations of hereditary syphilis are seen in great numbers. Good results are recorded of the effects of splenectomy in icterus haemorrhagica, and in one case the red blood cells increased within three weeks after operation from 800,000 to over 4,000,000. One of the physicians treats pulmonary tuberculosis by suggestion and claims excellent results.

Hindrances of the War.

At Berlin (visited two months after the commencement of the war) the most impressive thing is pronounced to be the infant feeding of Finkelstein and Meyer. Here and in the other clinics research and teaching work were in abeyance, as the assistants were engaged in work for the army. The hospitals are to a large extent given over to

wounded soldiers, and only the most urgent cases of disease in children receive attention. Work has been in progress in such directions as the immunity of the newly born, the nature of diphtheria immunity, tuberculous disease of the intestine, the treatment of tuberculous meningitis, the cutaneous reaction of diphtheria, and research work with the electrocardiograph, but all these and others are in the meantime suspended. Professor Pirquet, too, has had to abandon much of his special work and is devoting himself to the wounded soldiers, who are received into his hospital. Dr. Colliver expresses the opinion that even if the war stopped today it would take Germany and Austria more than a generation to regain the position they have so long held in the scientific world. He believes, also, that one of the effects of the war will be a tendency to shift this scientific and research spirit to America. Certainly his record of the confusions and hindrances which the war has created indicates how far-reaching and disastrous will be the effects both on scientific progress and on the practical methods by means of which the health of the rising generation are to be promoted. Science, it is said, knows no frontiers, but the international bitterness which will long survive the cessation of hostilities will seriously interfere with the freedom of communication upon which the diffusion of knowledge is largely dependent.

In a summary of his observations Dr. Colliver concludes as follows: Liverpool for orthopaedics; London for malnutrition, rheumatism, chorea, endocarditis, and rheumatic nodules; Munich for hygiene, prophylaxis, health regulations and food stations, and preservation of the normal; Vienna for tuberculosis, syphilis, X-rays, pathology, and research work; Berlin for infant feeding; and America for practicability and some of the best of all. It is sometimes said that travel in foreign countries has the advantage of making one more content with the state of affairs at home. The fine feathers of far-away birds are not always so enchanting when seen close at hand, and no one will grudge Dr. Colliver his conclusion that there are abundant good things in his own country. No doubt he will wish to make them still better, and in this ambition we cordially wish him every success.

NEW MEMBERS.

Bolton, M. Blanche—San Pedro.
Metzger, J. A.—Los Angeles.
Patrick, Marcia Alice—Los Angeles.
Bonoff, Karl M.—Los Angeles.
Burton, James—Pasadena, Cal.
Brown, Page—Los Angeles.
Carter, Joseph J.—Los Angeles.
Stadelman, Eugene—Long Beach.
Teel, A. W.—Glendale.
Dieterle, Karl Lionel—Los Angeles.
Klutho, John C.—Los Angeles.
Remaly, Chas. E.—Los Angeles.
Evans, Joseph G.—Los Angeles.
Bullock, Annie Sophia—Alhambra.
Bay, Samuel G.—Los Angeles.
Davidoff, Olga M.—San Francisco.
McLeish, Alex. H.—Napa.
Downing, S. R.—Visalia.
Waller, Julian L.—San Francisco.

DEATHS.

Caven, C. L.—San Diego.
Russ, Raymond—Hillsborough, Cal.
Leisenring, Peter S.—San Diego.
Le Fevre, Joseph P.—Los Angeles.
Knox, Myra—Oakland.
Taylor, Robert F.—Napa.
Mulligan, A. P.—Salida, Cal.
Richards, J. F.—San Francisco.
Hasse, Herman E.—Santa Monica.

PERIODICAL ROOM
RECEIVED

DEC 14 1915

UNIV. OF MICH.
LIBRARY

California State Journal of Medicine

ISSUED MONTHLY: OWNED AND PUBLISHED BY THE
MEDICAL SOCIETY OF THE STATE OF CALIFORNIA

Vol. XIII, No. 12

DECEMBER, 1915

\$1.00 a Year

CONTENTS

Editorials455

ORIGINAL ARTICLES:

Amputations and Their After
Treatment. By Leo Eloes-
ser, M. D.459

Clinical Records. By E. S.
Kilgore, M. D.463

The Application of Anocl Asso-
ciation to Obstetrics. By
C. L. Hoag, M. D.468

The Treatment of Congenital
Syphilis. By Hans Lisser,
M. D.469

Routine Radiological Demon-
stration of Gall-Stones. By
C. W. Lippman, M. D.475

Dr. Carlos J. Finlay. By Dr.
E. B. Barnet.476

Contents for the year 1915. I to VIII
The Use of the X-Ray as an
Aid in Surgical Operations.
By L. R. Fairhill, M. D.479

Which Is the Preferable Opera-
tion, Perineal or Suprapubic-
Prostatectomy? By C. R.
Harry, M. D.481

(Contents continued on page IX.)

ENTERED AT SAN FRANCISCO, CAL. AS SECOND-CLASS MATTER

JUST OUT—NEW (8th) EDITION

American Illustrated Medical Dictionary

This practical dictionary has reached its *eighth* edition, and in addition has gone through sixteen reprints—a total of *twenty-four* printings in the fifteen years since its publication. For this *new* (8th) edition the work throughout was most thoroughly revised, so thoroughly, in fact, that it was necessary to make entirely new plates for it. Some 1500 new terms are defined, and the text matter increased by 30 pages. You get in this new edition all the new words, whether relating to serology, physiology, pathology, chemistry, bacteriology, experimental medicine, clinical medicine, any of the therapies, surgery—every new addition to medical terminology. Hundreds and hundreds of these new terms are not defined in any other medical dictionary.

20 IMPORTANT FEATURES

New words—1500 of them.
Key to capitalization.
Key to pronunciation.
Etymology of words.
Every word a separate paragraph; plurals
always defined under the nouns.
Extreme flexibility of binding.
Anatomic tables.
Signs and symptoms in alphabetic order.
Methods of treatment in alphabetic order.
Dosage and therapeutic table.

Tables of exanthemata.
Serums in alphabetic order.
Tests—clinical and laboratory.
Reactions, staining and fixing methods.
Operations—technic in brief.
Veterinary terms.
Dental terms.
Medical biographies.
Every word defined.
Some 330 illustrations, 119 in colors—
really an atlas.

Octavo of 1137 pages, with 331 illustrations, 119 in colors. Edited by W. A. NEWMAN DORLAND, M. D.
Flexible leather, \$4.50 net; thumb indexed, \$5.00 net.

W. B. SAUNDERS COMPANY

West Washington Square, Philadelphia

FRANK F. WEDEKIND---TRUSSES, ELASTIC GOODS
ABDOMINAL SUPPORTERS

(SEE PAGE VIII)

SHERMAN'S BACTERINS



This entire Building used Exclusively for making
Sherman's Bacterins

*Preparations with
a Record for*

RELIABILITY

31 Different Varieties

TYPHOID FEVER

yields more readily to

TYPHOID VACCINE

than to any other remedy.
When given early it often
aborts the course of the disease.

Write for Literature

G. H. SHERMAN, M. D.
DETROIT, MICH.

*Daily Users of Vaccines
use Sherman's*

FRED I. LACKENBACH—Biologic Depot

908 BUTLER BUILDING

SAN FRANCISCO

Dr. H. M. Alexander & Co.

Pasteur

Anti-Rabic Treatment

Dr. H. M. Alexander & Co.

Glycerinated

Vaccine Virus

Dr. H. M. Alexander & Co.

Concentrated

Diphtheria Antitoxin

Dr. H. M. Alexander & Co.

Immunizing

Typhoid Vaccine

Prepared under U. S. Government License No. 3
By Dr. H. M. Alexander & Co., Marietta, Pa.

FRED I. LACKENBACH, Biologic Depot

908 BUTLER BLDG.
SUTTER 3121

UNION SQUARE
TELEPHONES 127

SAN FRANCISCO
SUTTER 3122

Pacific Coast Depot for DR. H. M. ALEXANDER & CO.

CALIFORNIA SANATORIUM

FOR THE

Scientific Treatment of Tuberculosis

BELMONT, SAN MATEO CO., CALIFORNIA

CLIMATIC CONDITIONS IDEAL. WELL PROTECTED FROM WIND AND FOG, SO THAT PATIENTS CAN STAY OUT DOORS DAY AND NIGHT. NOT TOO HOT IN SUMMER, NOT TOO COLD IN WINTER.

BEAUTIFUL SURROUNDINGS. GARDEN, ORCHARDS, AND WOODED HILLSIDES. 42 ACRES OF LAND, WITH EXCELLENT SPRING WATER.

WITHIN EASY REACH FROM SAN FRANCISCO; 40 MINUTES BY TRAIN.

ALL ROOMS IN THE MAIN BUILDING ARE CONNECTED WITH SLEEPING PORCHES.

NEW COTTAGES, SOLIDLY BUILT AND ELEGANTLY FURNISHED, WITH ALL MODERN CONVENIENCES, AS ELECTRICITY, GAS, TELEPHONES, SEPARATE BATH-ROOMS AND TOILETS, ETC.

PRICES FROM \$25 PER WEEK UPWARDS, WHICH INCLUDES MEDICINES AND MEDICAL ATTENDANCE.

TELEPHONE SAN MATEO 1006

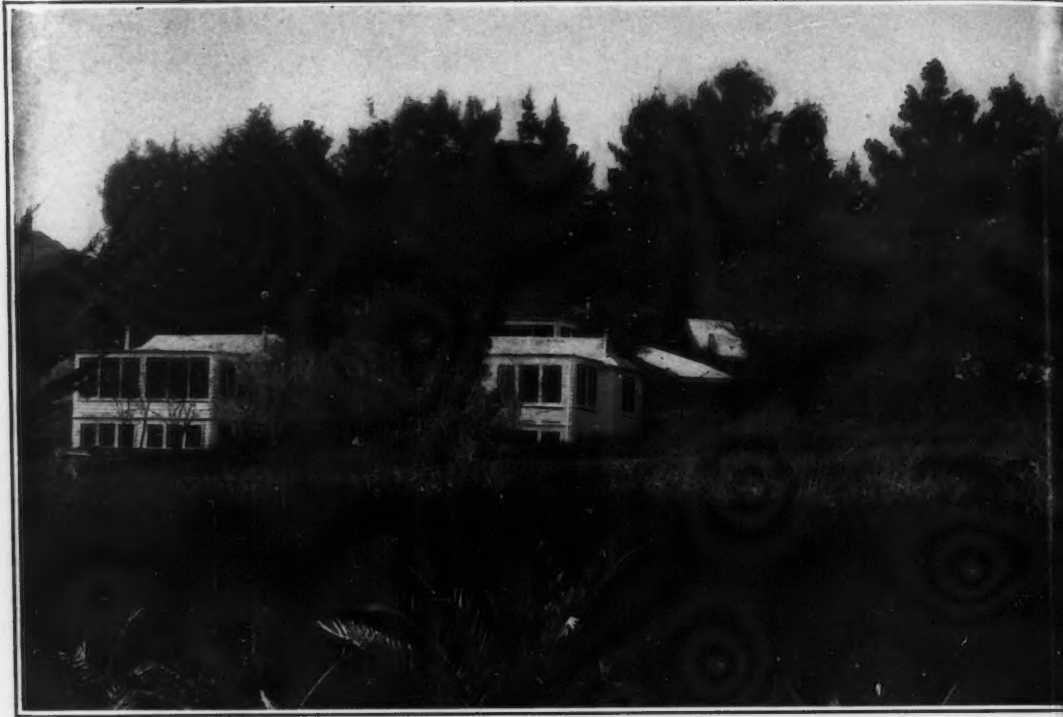
For particulars address:

DR. MAX ROTHSCHILD, Medical Director, Union Sq. Building, 350 Post Street, San Francisco. 10-12 A. M.	Or DR. HARRY WARREN, Assistant Med. Director, Belmont.
--	--

Tel. Douglas 2222

The illustrations on the following pages will give some idea of the beauties of the place.

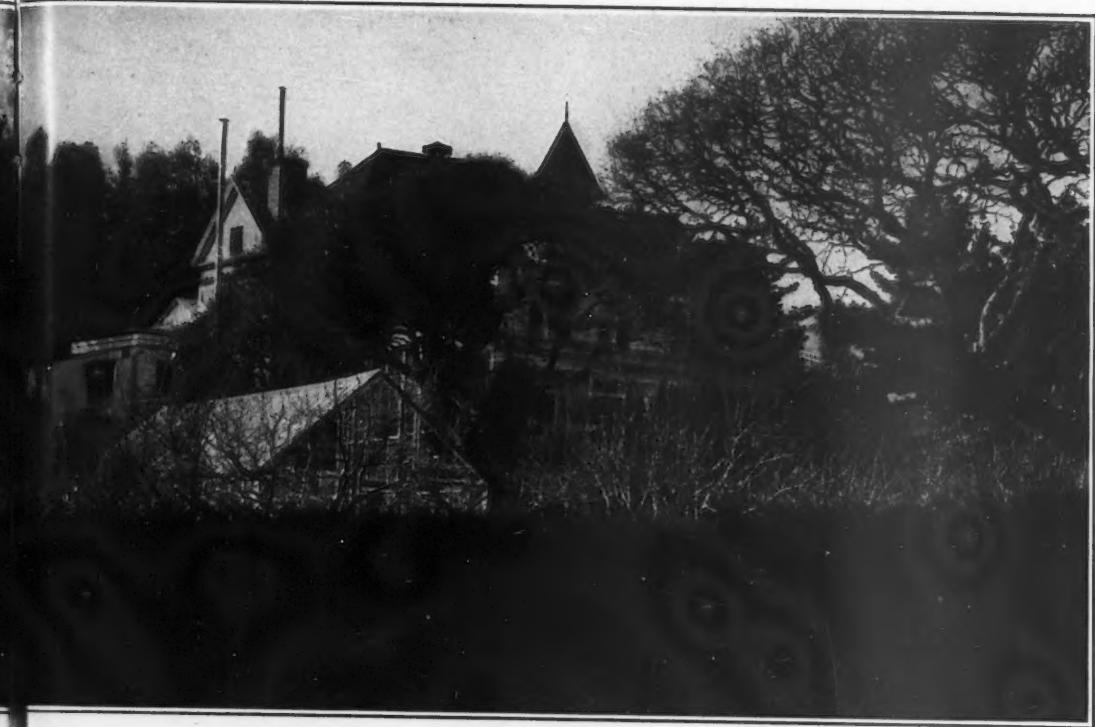
CALIFORNIA SANATORIUM, BELMONT, FOR THE



PANORAMIC VIEW OF THE



SCIENTIFIC TREATMENT OF TUBERCULOSIS



CALIFORNIA SANATORIUM



CALIFORNIA SANATORIUM, BELMONT, FOR THE
TREATMENT OF TUBERCULOSIS



Background of California Sanatorium



ONE OF THE COTTAGES (IN WINTER)

"TYPHOID IS A DISEASE OF YOUTH AND EARLY ADULT LIFE."

The results following the use of

Typhoid Prophylactic

have been so remarkable that it has been well denominated,

"GREATER THAN ALL OTHER SAFEGUARDS OF WAR OR PEACE."

All persons should be immunized against typhoid, particularly vacation seekers, as typhoid is preeminently a disease of summer resorts and camps.

Cutter's Typhoid Prophylactic

is prepared by the same method and from the same non-virulent culture used by the Army and Navy. It should be noted that only killed bacilli are used, and that this vaccine is identical with the "army vaccine" on which the army and navy statistics for efficacy and harmlessness are based.

It is marketed in

Package of 3 bottles (one complete immunizing treatment)	\$.75
" " 30 " (ten " " treatments)	3.50
Twenty c.c. bottle.....	3.00
One Syringe, containing one complete immunizing treatment, with three sterile needles75

making the price per dose negligible.

The Syringe package is recommended for convenience and freedom from possibilities of contamination.

Our little pamphlet for the laity, "Have You Had Typhoid?" should be on every physician's table. It tells in plain terms of the danger from Typhoid Carriers and the wonderful results from prophylactic inoculation. A supply will gladly be sent to any physician on request. We issue another pamphlet, for physicians, "Typhoid Vaccine in Prophylaxis and Treatment," which is kept up to date and will also be promptly mailed on request.

Please specify and insist on being supplied with "Cutter's" biologics, they are high grade and western made.

THE CUTTER LABORATORY

(U. S. License No. 8)

BERKELEY - - - - CALIFORNIA

SAN FRANCISCO POLYCLINIC and POST-GRADUATE SCHOOL

ANNOUNCES A COURSE IN

PHYSICAL DIAGNOSIS

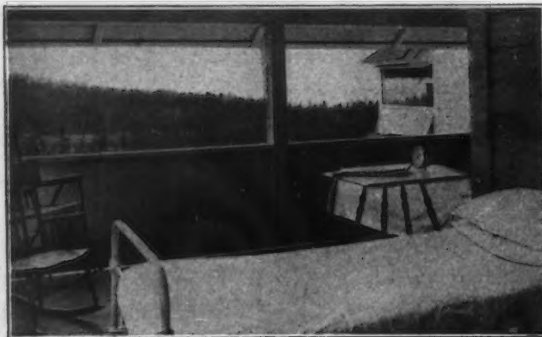
This course will be given by Dr. Phillip King Brown and assistants at the City and County Hospital of San Francisco and will run four weeks.

ADDRESS ALL INQUIRIES TO

THE SAN FRANCISCO POLYCLINIC AND POST GRADUATE SCHOOL

1535 JACKSON STREET

SAN FRANCISCO, CALIFORNIA



Alta Sanatorium

For Early Tuberculosis

☐ In the Sierras. Altitude 3,800 ft. On main line S. P. R. R. Southwest exposure. Forty acres of pine, fir and spruce.

☐ Central building, cottages and housekeeping apartments.

Electric lights. Screened dining porch. Patients live outside the year round.

Its scenic setting, mild winters, cool summers, absence of fogs, abundance of sunshine and stimulating mountain air render ALTA unsurpassable as a natural resort for the tuberculous.

These natural advantages are supplemented by the latest approved methods of treatment.

The result of the above factors is that patients have increased appetites, show increased gains in weight and strength, manifest a buoyancy of spirits and a general healthy optimism—conditions most favorable for the establishment of a natural and an artificial immunity and cure.

TERMS MODERATE

DR. BURT F. HOWARD, *Medical Director*
1005 K Street, Sacramento, Cal.

DR. W. J. BROOME, *Resident Physician*
Alta, Cal.



The Oaks Sanitarium

Reorganized

Reconstructed

Los Gatos, California

A moderately priced institution for the scientific treatment of tuberculosis. Situated in the foothills of the Santa Cruz mountains, two miles from the town of Los Gatos, in proximity to State Highway.

The grounds filled with wonderful oaks.

The site surrounded by beautiful hills, valleys and orchards.

The cottages well built upon the open-air plan and comfortably equipped.

New Infirmary for patients not wishing cottages. Electrically lighted and steam heated, running hot and cold water.

Individual bungalows with private bath.

The climate ideal the year round.

All conditions right to keep the patient cheerfully and pleasantly occupied during the course of his treatment.

The OAKS maintains its own dairy and poultry farm.

Terms—\$20.00-\$35.00 per week, including medical treatment, medicine and general nursing. No extras.

For particulars and booklet address

William C. Voorsanger, M. D.

Medical Director

Hastings Bldg., 162 Post Street,

San Francisco, Cal.

Telephone Douglas 2160

OR

Resident Physician

Oaks Sanitarium, Los Gatos, Cal.

Telephone Main 173R

DOCTOR

Were you sufficiently interested in our advertisement last month to send for a trial half-dozen bottles of CALSO WATER? The offer is still open to you if you will do it now.



Write or telephone the depot nearest you.

Calso Water Company

SAN FRANCISCO

524 Gough Street

Tel. Market 2934

VALLEJO

931 Maine Street

Tel. 546 R

LOS ANGELES

111 East Market Street

PACIFIC WASSERMANN LABORATORIES

\$5-Autogenous Vaccines-\$5

(30 cc. SPECIAL CONTAINER)

Avail Yourself of this Great Therapeutic Aid

Theory, practice and the opinion of leading men point towards the efficiency of **Autogenous** vaccine therapy.

It is a fallacy to use stock vaccines when possible to obtain an autogenous vaccine.

Stock Vaccines are prepared from one or more strains of stock cultures obtained from sources foreign to your case.

Autogenous Vaccines are most logical from both a practical and theoretical standpoint. They are prepared from the exact causative bacteria infecting your patient.

Vaccine Therapy finds its most successful application in chronic infections.

Successfully Used in many diseases of the skin, alimentary canal, respiratory tract, joints and bone, genito-urinary tract, eye, ear, nose, throat and other bacterial infections.

Our Vaccine Department enjoys every facility which is of advantage in the preparation of autogenous vaccines. The utmost care and precision enters in the preparation of these vaccines. The use of special culture media; the careful isolation of the various bacteria and their identification; careful standardization and tests for sterility are a part of our routine method.

Our Vast Experience in this work and the many vaccines we are continually preparing assures you of obtaining **promptly** the most reliable and efficient vaccines.

Culture Media with complete instructions for the collection of material for vaccines, mailed upon request.

Send for Complete Fee List and Containers

PACIFIC WASSERMANN LABORATORIES

SAN FRANCISCO
601 Pacific Bldg.
Tel. Sutter 539

OAKLAND
304 Physicians Bldg.
Tel. Oakland 1625

LOS ANGELES
1012 Hollingsworth Bldg.
Tel. Main 7633
Home A6865

SEATTLE
1013 Green Bldg.
Tel. Main 4234

PACIFIC WASSERMANN LABORATORIES

SAN FRANCISCO
501 Pacific Bldg.
Tel. Sutter 539

OAKLAND
304 Physicians Bldg.
Tel. Oakland 1625

LOS ANGELES
1012 Hollingsworth Bldg.
Tel. Main 7633
Home A5555

SEATTLE
1013 Green Bldg.
Tel. Main 4234



THE FINEST LABORATORIES ON THE PACIFIC COAST



"DIAGNOSTIC AIDS"

An independent Journal devoted to original articles and current review of clinical laboratory research and the treatment and diagnosis of syphilis.

FREE SUBSCRIPTION

Tear this out along dotted line
and mail to us.

PACIFIC WASSERMANN LABORATORIES

Publishers "DIAGNOSTIC AIDS"

501 Pacific Building San Francisco, California
Gentlemen: Kindly send me free of charge, a copy of
"DIAGNOSTIC AIDS" regularly, without putting me under
any further obligation.

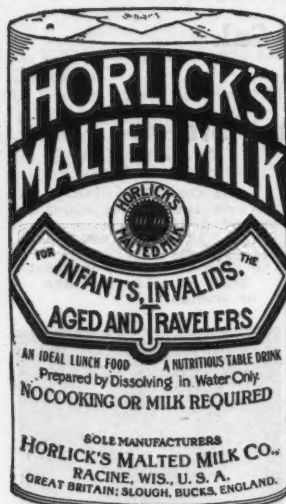
Name.....

Address.....

City.....

State.....

ASK FOR HORLICK'S



THE ORIGINAL

THE QUESTION of VITAMINES

The *American Journal of Diseases of Children* March 1914, contains an article which states that, after some months of experimental work on different food-products

HORLICK'S MALTED MILK

gave very satisfactory results, and again proved itself to be a sustaining, complete food, containing in its composition accessory substances (vitamines, etc.) necessary for normal growth and the maintenance of constant body weight

Ask for Horlick's The Original and Avoid Substitutes

Horlick's Malted Milk Company

Racine, Wisconsin



MICROSCOPE FF8

A New Microscope

A new Microscope with side fine adjustment of the lever type. The principle is that of our original lever type of fine adjustment which has met the test of time and has been generally adopted. The construction is simple and durable, giving a delicate movement for work with the highest powers, yet rapid enough for the lower powers.

The stand is of the same form as our FF and embodies all the good features which have commended that model to so many purchasers.

Equipped with Abbe Condenser; 2 iris diaphragms; 2 eyepieces; 3 objectives, 16mm. ($\frac{2}{3}$ in.) and 4mm. ($\frac{1}{6}$ in.) dry and 1.9mm. ($\frac{1}{12}$ in.) oil immersion, price \$67.50.

Descriptive circular will be sent on request

ALSO MANUFACTURERS OF
CENTRIFUGES, MICROTOMES
BLOOD AND URINARY APPARATUS
BACTERIOLOGICAL SUPPLIES FOR
LABORATORIES

BAUSCH & LOMB OPTICAL COMPANY

154 SUTTER STREET, SAN FRANCISCO, CAL.

Factory, Rochester, N. Y.

PACIFIC WASSERMANN LABORATORIES

SAN FRANCISCO
501 Pacific Bldg.
Tel. Sutter 539

OAKLAND
304 Physicians Bldg.
Tel. Oakland 1628

LOS ANGELES
1012 Hollingsworth Bldg.
Tel. Main 7633
Home A8868

SEATTLE
1013 Green Bldg.
Tel. Main 4234




THE FINEST LABORATORIES ON THE PACIFIC COAST



"DIAGNOSTIC AIDS"

An independent Journal devoted to original articles and current review of clinical laboratory research and the treatment and diagnosis of syphilis.

FREE SUBSCRIPTION

Tear this out along dotted line
and mail to us. 

PACIFIC WASSERMANN LABORATORIES

Publishers "DIAGNOSTIC AIDS"

501 Pacific Building San Francisco, California
Gentlemen: Kindly send me free of charge, a copy of
"DIAGNOSTIC AIDS" regularly, without putting me under
any further obligation.

Name.....

Address.....

City.....

12 State.....

ASK FOR HORLICK'S



THE ORIGINAL

THE QUESTION of VITAMINES

The *American Journal of Diseases of Children* March 1914, contains an article which states that, after some months of experimental work on different food-products

HORLICK'S MALTED MILK

gave very satisfactory results, and again proved itself to be a sustaining, complete food, containing in its composition accessory substances (vitamines, etc.) necessary for normal growth and the maintenance of constant body weight

Ask for Horlick's The Original and Avoid Substitutes

Horlick's Malted Milk Company

Racine, Wisconsin



MICROSCOPE FF58

A New Microscope

A new Microscope with side fine adjustment of the lever type. The principle is that of our original lever type of fine adjustment which has met the test of time and has been generally adopted. The construction is simple and durable, giving a delicate movement for work with the highest powers, yet rapid enough for the lower powers.

The stand is of the same form as our FF and embodies all the good features which have commended that model to so many purchasers.

Equipped with Abbe Condenser; 2 iris diaphragms; 2 eyepieces; 3 objectives, 16mm. ($\frac{2}{3}$ in.) and 4mm. ($\frac{1}{6}$ in.) dry and 1.9mm. ($\frac{1}{12}$ in.) oil immersion, price \$67.50.

Descriptive circular will be sent on request

ALSO MANUFACTURERS OF

**CENTRIFUGES, MICROTOMES
BLOOD AND URINARY APPARATUS
BACTERIOLOGICAL SUPPLIES FOR
LABORATORIES**

BAUSCH & LOMB OPTICAL COMPANY

154 SUTTER STREET, SAN FRANCISCO, CAL.

Factory, Rochester, N. Y.

The Storm Binder and Abdominal Supporter

(Patented)

Manufactured in San Francisco, Cal.

By

FRANK F. WEDEKIND, 2004-06 Sutter Street

Phone West 6322

LIGHT
FLEXIBLE
DURABLE
WASHABLE

a At the Waist line.
b At the middle abdomen,
largest girth.
c At the lower abdomen.
d One thigh.
e Top to bottom in front.
State whether for man
or woman.



Special support in cases of Prolapsed
Kidney, Stomach, Colon and Hernia.
A general support in Pregnancy,
Obesity and General Relaxation.
The best Post-Operative Supporter
Made.



Diagram for Measuring

SEND FOR ILLUSTRATED FOLDER

Are you prepared

for that emergency call late to-night—mayhap 'way out
in the country, or if in town, after drug-store hours?

In either event—and in most “hurry” medical cases—
there is nothing quite so immediately useful as

a good hypodermic syringe that “always works and never leaks”
and some real hypodermic tablets—ours for instance.

\$2.60 worth of that kind of “preparedness”—that's the price
of our Aseptic Hypodermic Outfit through your druggist—

- equips you with a good syringe and six kinds of emergency tablets
in a handsome aluminum case that will fit your pocket
without bulging—a neat, compact, aseptic emergency outfit.

Are you prepared?

SHARP & DOHME

The hypodermic tablet people
since 1882

Purveyors to the medical profession since 1860

MEDICAL SOCIETY OF THE STATE OF CALIFORNIA

HARRY M. SHERMAN, San Francisco, President
GEORGE A. HARE, Fresno, 1st Vice-Pres. **REXWALD BROWN**, Santa Barbara, 2nd Vice-Pres.
PHILIP MILLS JONES, Butler Building, San Francisco, Secretary

COUNCILORS

C. G. KENYON , San Francisco, Chairman (6th District. Term expires 1916)	A. C. A. JAYET , San Jose (5th District. Term expires 1917)	RENÉ BINE , San Francisco (At Large. Term expires 1917)
T. C. EDWARDS , Salinas (3d District. Term expires 1915)	GEO. H. KRESS , Los Angeles (2d District. Term expires 1916)	H. A. L. RYFKOGEL , San Francisco (At Large. Term expires 1915)
E. N. EWER , Oakland (7th District. Term expires 1917)	GEORGE H. AIKEN , Fresno (4th District. Term expires 1915)	O. D. HAMLIN , Oakland (At Large. Term expires 1916)
A. W. HOISHOLT , Napa (9th District. Term expires 1917)	JAS. H. PARKINSON , Sacramento (8th District. Term expires 1916)	C. VAN ZWALENBURG , Riverside (1st District. Term expires 1915)

CALIFORNIA STATE JOURNAL OF MEDICINE

BUTLER BUILDING, SAN FRANCISCO

CONTENTS -- Continued

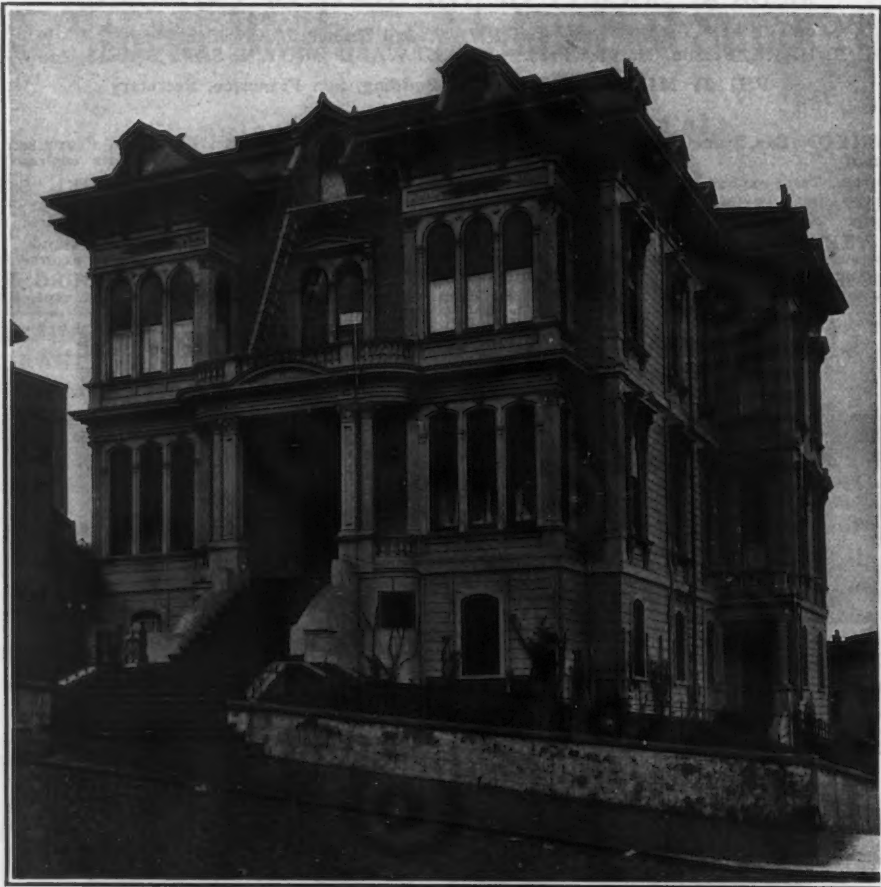
Twilight Sleep. By Millcent Cosgrave, M. D.482	San Bernardino County.....491	The Autolysin Treatment of Cancer493
State Society—Fresno 1916.....485	San Joaquin County.....491	Full-Time Health Officers.....494
Glandular Polypus of the Colon. By G. H. Aiken, M. D.486	Santa Clara County.....491	Commandments Covering the Relations of the Public with the Doctor494
Book Reviews.....487	Tuberculosis Society.....491	November Meeting of the State Board of Health.....494
SOCIETY REPORTS:	Department of Pharmacy and Chemistry. By F. I. Lacken- bach492	A Clinical Pilgrimage in War- Time495
Cooper Clinical Society.....490	New and Non-Official Reme- dies492	New Members496
Fresno County.....490	Journal of Cutaneous Diseases.....493	Deaths496
Los Angeles County.....490	Peaches Peeled by Lye not In- jurious to Health.....493	
Mendocino County.....491		

**LIVERMORE SANITARIUM**

FOR GENERAL DISEASES is beautifully situated near the town of Livermore, 30 miles from San Francisco, and is surrounded by handsome grounds. It is isolated, the rooms are large and well furnished and the Sanitarium is specially adapted for the treatment of Neurasthenia, Nervous Dyspepsia, the Alcohol Habit and Morphomania. One building is especially adapted for Massage, Electricity, Hydrotherapy and Sun-Bath. Terms, \$30.00 to \$75.00 per week.

THE DEPARTMENT FOR THE TREATMENT OF MENTAL DISEASES is entirely separated from the Sanitarium and is located in grounds absolutely private. The central building is surrounded by small cottages for the better segregation of patients. The best-trained nurses are employed and all modern appliances for the proper care of the insane have been provided. Absolutely no restraint nor enclosures for patients. Terms, \$25.00 to \$50.00 per week, depending upon the number of nurses required.

Address **J. W. ROBERTSON, M. D.**
DRAWER S, LIVERMORE, CAL.



DR. R. E. BERING'S SANITARIUM

300 PAGE STREET, SAN FRANCISCO

PHONE MARKET 8048

An Ethical, Home-Like Institution for the exclusive care and treatment of Alcohol and Drug Addictions.

Open to all reputable Physicians who may direct treatment exclusively or in consultation with Dr. Bering.

A Tonic with Food Value

You will find in Malt-Nutrine valuable tonic properties due to the aromatic bitter principles of Saazer hops. You will also find the *food* value of more than 14 per cent. of pure malt extract. The ingredients of Malt-Nutrine are carefully and properly chosen to constitute a real food tonic and are combined through scientific processes under the direction of competent chemists.



ANHEUSER-BUSCH'S
Malt-Nutrine
TRADE MARK

is the recognized standard of medicinal malt preparations. It is extensively prescribed by physicians as a food-tonic for nursing mothers, protracted convalescence from acute diseases, insomnia and many other conditions. Do not confuse it with cheap dark beers.

Pronounced by the U. S. Internal Revenue Department a

PURE MALT PRODUCT

and not an alcoholic beverage.

Anheuser-Busch,

-:-

St. Louis

The New German Hospital

14th and Noe Streets



*Beautifully located in a scenic park
Rooms large and sunny—Rates reasonable—Fine cuisine
Unsurpassed Operating, X-ray and
Maternity Departments*

Training School for Nurses

For further information

Address, GERMAN HOSPITAL



The Angelus Hospital

Corner Washington and Trinity Streets

Los Angeles, Cal.

HARRIET W. PAHL, Superintendent

A general hospital open to all reputable physicians. Quiet, elegant, spacious grounds; all outside rooms; fire-proof. It has an excellent Training School for Nurses, giving a three years' course of instruction.

The Fairchild Culture Is THE Culture of the Bacillus Bulgaricus

It appeals to the preference of the physician on the ground of excellence, assured by source, method of manufacture and standardization, the way it is put up and labeled, the guarantee, method of distribution; and upon the final criterion of its record in clinical experience.

The Fairchild Culture is placed at the disposal of the medical man in the most direct manner possible and without any exploitation of disease. Correspondence invited.

FAIRCHILD BROS. & FOSTER
NEW YORK

Walters Surgical Company

"THE HOUSE THAT AIMS TO SERVE"

We Manufacture

STERILIZERS

HOSPITAL FURNITURE

X-RAY COILS

And carry in stock everything for the equipment of Hospital or Office.

Let us supply your wants and save you money and trouble.

393 SUTTER STREET
SAN FRANCISCO
CALIFORNIA

PARAGON X-RAY PLATES awarded the GOLD MEDAL at the PANAMA-PACIFIC EX- POSITION, San Francisco THE HIGHEST AND ONLY AWARD TO ANY X-RAY PLATE

The flawless roentgenograms produced by these plates have now received the forceful stamp of quality by a discriminating board of experts.



Show tissue density and shadow outlines with remarkable clearness. Produce superior results in the most difficult X-Ray work.

"PARAGON POINTERS," our new 57 page booklet has made Paragon service famous. It affords practical working knowledge of all phases of correct radiography. Mailed free.

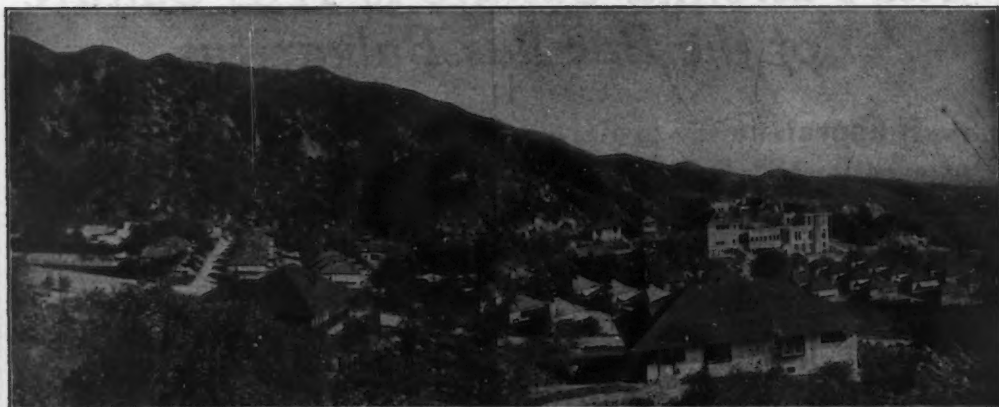
Send us an order for a dozen Paragon Plates (Prices, 8x10, \$3.00; 10x12, \$5.15, etc., 10% discount for cash) and we will include free a handy plate-marker of your name. Write us to-day like thousands of other wideawake physicians.

Carried in stock by the DEFENDER PHOTO SUPPLY CO., 86 Third St., San Francisco and the PACIFIC SURGICAL MFG. CO., 319 W. Sixth St., Los Angeles, who are equipped to make prompt shipments.

GEO. W. BRADY & CO.

769 S. Western Avenue, CHICAGO

Officially adopted by
Emergency Hospital of Panama-Pacific Exposition

POTTENGER SANATORIUM*For Diseases of the Lungs and Throat***MONROVIA,
CALIFORNIA**

A thoroughly equipped institution for the scientific treatment of tuberculosis.
High-class accommodations.

Ideal all-year-round climate. Surrounded by orange groves and beautiful mountain scenery.
Forty-five minutes from Los Angeles.

F. M. Pottenger, A. M., M. D., LL. D., Medical Director.

J. E. Pottenger, A. B., M. D., Assistant Medical Director and Chief of Laboratory.

Geo. H. Evans, M. D., San Francisco, Cal., Medical Consultant.

For particulars address:

Los Angeles Office: 1100-1 Title Insurance Bldg.,
Cor. Fifth and Spring Streets

POTTENGER SANATORIUM,
Monrovia, California

KADECO ALL GLASS HYPODERMIC SYRINGES

For
Every
Purpose



All
Ground
Glass

KADECO HYPODERMIC
SYRINGES
NEVER REQUIRE LUBRICATION

Simple in Construction Effective in Action Perfectly Sterilizable

The glass piston fills the barrel loosely and yet there is absolutely no leakage of liquid. To charge the syringe, withdraw the glass piston rod, drop the hypodermic tablet in the glass barrel and dissolve by pouring in water, or solution can be drawn in through the needle.

Accurate Dosage Absolutely Insured

All sizes; designed for use in making all superficial or intramuscular injections; 1½ c. c. to 20 c. c., in one and seven vial pocket case, pasteboard case or without case. Insist upon the KADECO brand when ordering a syringe. The KADECO syringe may be obtained from your dealer.

KIMBLE-DURAND GLASS CO.

CHICAGO, ILL.

NEW YORK, N. Y.

VINELAND, N. J.

Manufacturers of

HOMEOPATHIC VIALS
GRADUATES
CREAMERY GLASSWARE
TEST TUBES
MEDICINE DROPPERS
SYRINGES
CHEMICAL FLASKS
FUNNELS
AND ALL KINDS OF
CHEMICAL AND
SURGICAL GLASSWARE

ILLINOIS-PACIFIC
GLASS CO.

SAN FRANCISCO

Reason Number Six Why a Tuberculous Patient Should Be Given Sanatorium Treatment if Possible

It is more economical for the patient than home treatment. 1. Because the results are better and the best is the cheapest. 2. Because under no other system can the patient secure daily medical supervision, skilled treatment, the advantages of the X-ray room, proper nursing, careful regulation of diet, and all the other Sanatorium advantages for anything approximating the low cost of Sanatorium life. 3. Because the patient goes home educated how to stay well as a result of the careful instruction given at the Sanatorium. For this reason his efficiency is less liable to be impaired by relapses and the consequent economic saving is very frequently greater than the cost of getting well.



Among the Pines in January

THE COLFAX SCHOOL FOR THE TUBERCULOUS is a well-equipped institution for the care of the tuberculous. It is situated at Colfax, Placer County, at an elevation of 2400 feet above sea level. This altitude is marked by freedom from fog and at the same time it is below the snow line. Telephone, telegraph, post-office and transportation facilities are excellent.

Patients have the benefit of a carefully prescribed regime and are given individual treatment in addition to recognized hygienic-dietetic measures. Tuberculin, vaccines, and artificial pneumothorax use in suitable cases. Full X-ray equipment.

For further information, apply to

ROBERT A. PEERS, M. D., Medical Director

COLFAX, CALIFORNIA

CHESLEY BUSH, M. D., Assistant

Diphtheria Antitoxin

that leaves nothing to be desired.

IN the preparation of our Antidiphtheric Serum the element of guesswork never enters. Modern scientific methods mark every step in the process of manufacture.

We maintain a large stock-farm, miles from the smoke and dust of the city, where are kept the animals used in serum production.

Our biological stables are provided with an abundance of light and fresh air and a perfect system of drainage. They are under the constant supervision of skilled veterinary surgeons.

Before admission to the stables each horse is subjected to a rigid physical examination, and no animal is eligible that has not been pronounced sound by expert veterinarians.

Immunization and bleeding of horses are conducted in accordance with modern surgical methods.

The product is marketed in hermetically sealed glass containers, and every lot is bacteriologically and physiologically tested.

CONCENTRATED

Antidiphtheric Serum

(GLOBULIN)



"A model of convenience and security."

PACKAGES.

Bio. 15— 500 antitoxic units.
Bio. 16—1000 antitoxic units.
Bio. 17—2000 antitoxic units.
Bio. 18—3000 antitoxic units.

Bio. 19— 4000 antitoxic units.
Bio. 20— 5000 antitoxic units.
Bio. 21— 7500 antitoxic units.
Bio. 22—10,000 antitoxic units.

SPECIFY "P. D. & CO." ON ORDERS TO YOUR DRUGGIST.

Home Offices and Laboratories,
Detroit, Michigan.

Parke, Davis & Co.

ALTITUDE
5350 FEET

PAMSETGAAF SANATORIUM

PRESCOTT,
ARIZONA

THE MANAGEMENT OF PAMSETGAAF WISHES TO ANNOUNCE THAT, HAVING HAD TWO YEARS' EXPERIENCE WITH AN ADAPTATION OF ROLLIER'S METHOD OF HELIOTHERAPY, WE ARE ABLE TO OFFER SCIENTIFIC TREATMENT IN SURGICAL AS WELL AS PULMONARY AND LARYNGEAL TUBERCULOSIS.

JOHN W. FLINN, M. D., Medical Director

Corpus Luteum.

True substance.
Powder; 2 grain
and 5 grain cap-
sules; 2 grain
tablets.

Pituitary Liquid.

Physiologically
Standardized.
Free from pres-
ervatives. 1 c. c.
ampoules.

Pituitary Powder

and 1 grain tablets
(whole gland).

Pituitary Powder

and 2 grain tablets
(anterior lobe).

Pituitary Powder

and 1/10 grain
tablets (posterior
lobe).

Duodenin.

1 grain tablets.

Elixir of Enzymes.

Adjuvant and ve-
hicle.

Red Bone Marrow.

Hematogenetic.
Histogenetic.

Lecithol.

Emulsion of Lec-
ithin from brain
substance.

Chymogen.

In infant feeding
prevents forma-
tion of curds in
milk.

**Peptonizing Tablets
and Peptonizing
Powder**

For predigesting
foods.

Thyroids U.S.P.

Powder, standard-
ized.

Thyroid Tablets

Standardized. 2
gr. 1 gr. ½ gr. ¼
gr.

Pineal Substance—

Powder.

Pineal Tablets—

1/20 grain.

Nutrient Wine of

Beef Peptone.
Predigested beef in
palatable form.

Pepsin, U. S. P.

Pancreatin, U.S.P.

Rennet, 1:30000

And a full line of
organotherapeutics.



THE Armour laboratory products are made from fresh raw material taken from Federal inspected stock. The laboratory is located near the abattoirs, which enables us to put the glands and membranes into process before any deterioration has set in. All desiccating is done in vacuum dryers at a temperature that prevents injury to active principles, etc. The physician that specifies Armour's gets the best.

Literature to medical men on request.

ARMOUR AND COMPANY
CHICAGO

HUNSAKER'S SURGICAL AND HEALTH CORSETS ARE RELIABLE



They give perfect support after operations in cases of Hernia, Prolapsed Stomach, Colon and Kidney, in Pregnancy and in general relaxation, etc. They also give a fine figure, forming in all a combination which makes them a most desirable garment that can be worn at all times. Endorsed by leading physicians and surgeons.

Satisfaction guaranteed in all cases.
Residence and Hospital service in the bay cities.
Phone for appointments.

Mail Orders Promptly Attended to

MAE E. HUNSAKER & CO.
CORSET MAKERS AND DESIGNERS
1603 86th Avenue, Oakland, Cal.
Phone Elmhurst 875

TRINITY HOSPITAL

NORTHWEST CORNER

Page Street and Masonic Avenue

SAN FRANCISCO

**A first-class Modern Hospital for
the treatment of Medical, Sur-
gical and Obstetrical cases.**

Telephone Park 6700

PASADENA SANITARIUM

Located in South Pasadena, convenient to Electric Lines between Los Angeles and Pasadena.

FOR CASES OF

General Invalidism, Nervous and Mental Diseases and Habituations

Home-like, private place; "Set on a Hill" in most beautiful portion of Southern California; 40 acres grounds.

Separate Buildings, New and Modern; careful segregation.

Individual treatment, scientific equipment. Rates reasonable. Direct telephone connections with both Los Angeles and Pasadena.

Los Angeles Office: 519 Lissner Building; after-
noons.

Address communications:

DR. T. W. BISHOP

South Pasadena - - - California

COLLEGE OF PHYSICIANS AND SURGEONS Medical Department University of Southern California

516 E. WASHINGTON STREET
LOS ANGELES, CAL.



Four years graded course of nine months each; laboratory facilities and clinical advantages unexcelled; faculty of experienced teachers; matriculation requirements, an accredited high school course, plus one year of Biology, Chemistry, Physics and a Modern Language, of college grade; 1915-16 session begins September 6.

For catalogue and information, address the Dean
DR. CH. W. BRYSON,
Citizens Nat'l. Bank Bldg. Los Angeles, Cal.



EQUIPMENT

1. Hydrotherapeutic Treatment Regime
2. X-Ray equipment (antiruptureless)
3. Laboratories
4. Modern operating rooms
5. Sun Bath
6. Eye, Ear, Nose and Throat Dept
7. High Frequency
8. Complete Electrical Equipment
9. Mechanical Swedish
10. Outdoor Gymnasium
11. Recreation grounds

ACCESSORIES

Dairy—125 Tuberculin Tested Cows	Laundry
Farm	Orchards
Gardens	Garage
Bakery	

ROOMS AND SUITES
LOCATED

In Main Building, 76 rooms
In Hospital Building, 60 beds
In Cottages, 26 rooms
Rooms with or without bath or screen porch

MEDICAL STAFF

T. J. Evans, M. D., Medical Supt.
W. A. Ruble, M. D., General Medicine
Julia A. White, M. D., Diseases of Women
Newton Evans, M. D., Pathologist
E. H. Risley, M. D., X-Ray
W. A. George, M. D., Surgeon
J. J. Weir, M. D., Eye, Ear, Nose and Throat
A. W. Truman, M. D., Nervous Diseases
Fred Herzer, M. D., Laboratory
Zenobia E. Nightengale, M. D., General Medicine

LOMA LINDA SANITARIUM
MEDICAL AND SURGICAL

Equipped with all modern appliances for the rational treatment of disease. Situated in the famous Citrus belt of Southern California, sixty-two miles from Los Angeles on the main line of the Southern Pacific Railway

ADDRESS:
MEDICAL DEPARTMENT
Loma Linda Sanitarium Loma Linda, California

Where Effective:

POLLANTIN

Dunbar's Hay Fever Serum, is effective only in ailments caused by Pollen absorption

Therefore it logically follows to make sure before using it, that the symptoms indicate Hay Fever, and not their simulation of other origin.

Pollantin is not injected, used externally only. Injection was first employed but discontinued for reason of causing itching, erythema and swelling at site of injection. Withal, however, external use proved greatly more beneficial and lasting in results.

Prophylactic treatment highly recommended.

Literature on request

Fritzsche Brothers--New York

FORMS
Powder
Liquid
Ointment

*Pathological
Bacteriological
Serological
Roentgenological*

PRACTITIONERS' LABORATORIES

Ernst Albrect Victors, M. D.
Director of Laboratories



Whitney Building
133 Geary Street, San Francisco
Telephone Sutter 1015

Safety First



Borden's Condensed Milk Company

HAS BEEN AWARDED THE

GRAND PRIZE

Highest Award



BY THE SUPERIOR JURY OF THE

PANAMA-PACIFIC INTERNATIONAL EXPOSITION

AT SAN FRANCISCO

COVERING

Gail Borden Eagle Brand Condensed Milk

Borden's Evaporated Milk

Borden's Malted Milk

Borden's Condensed Milk Co.

"Leaders of Quality"

Est. 1857

New York

"STANDARD" RADIUM

PREPARATIONS



Permanent Radium Activity—Definite Dosage

**For subacute and chronic joint and muscular conditions.
Symptomatic High Blood Pressure. Anemia. Insomnia.**

The Council on Pharmacy and Chemistry of the American Medical Association has accepted "Standard" Radium Preparations.

Send for descriptive and clinical literature.

Radium Chemical Company

Forbes & Meyran Aves.

Pittsburgh, Pa.

LEUCOCYTE EXTRACT, SQUIBB

Prepared from healthy leucocytes according to Hiss. Indicated in general acute systemic infections where bacteriological diagnosis is uncertain. Also used in conjunction with the specific serums and vaccines in the treatment of Erysipelas, Meningitis, Lobar Pneumonia, Septicemia, Pyemia and Furunculosis.

No contra-indications are known.

For clinical reports address:

E. R. SQUIBB & SONS - - - - - NEW YORK

WANTED.

Licentiate of California and Nevada would like location as physician and surgeon for corporation, construction company or mines. Locum-tenens or will buy if location and price are right. Best of references. Age, 32 years. Address, "E. E.," care California State Journal of Medicine, 930 Butler Bldg., San Francisco, Cal.

WANTED.

Position as health officer, by physician with extensive public health and laboratory experience.

Address, "A. B.," care California State Journal of Medicine, 930 Butler Bldg., San Francisco, Cal.

DIABETES

A disease of metabolism. Its treatment is essentially dietetic. **HEPCO FOODS** meet this requirement.

Starch—Trace

Protein—41%

Fat—21%



PRODUCTS:

Hepco Flour

Hepco Dodgers

(Cookies)

Hepco Grits

(Breakfast Food)

Have Been Approved by the Council on Pharmacy and Chemistry of the American Medical Association

FOR SALE BY

BOWERMAN'S PHARMACY

238 Stockton Street, San Francisco, Cal.

Write for new Booklet A

WAUKESHA HEALTH PRODUCTS CO.
(Incorporated)

131 Grand Avenue

WAUKESHA, WIS., U. S. A.

"GRANDE VISTA"
The Belgium Sanatorium, Inc.
RICHMOND, CAL.



For Nervous, Mental, Drug and
Alcoholic Psychoses
H. N. BELGUM, S. B., M. D., Medical Director

Equipped for Electro-Hydro and
Psycho-Therapy
Telephone Richmond 3-J-12

California to Chicago

CHICAGO TO CALIFORNIA

SANTA FE ALL THE WAY

JUST REMEMBER

—four daily transcontinental trains

The California Limited

—exclusively first-class—departs 11:55 p. m.

The Navajo

—a fast train, carries both standard and tourist sleepers—departs 8:00 p. m.

The Missionary

—runs via Belen cut-off—fast, too—for both first and second class travel—departs 9:00 a. m.

The Overland

—the old stand-by for years—departs 9:00 a. m.

Saint---Angel

Two fast trains, giving superior service between San Francisco, Oakland and Los Angeles. Carrying through sleeper to and from San Diego.

—from here daily 4:00 p. m.



Santa Fe City Offices:

673 Market Street, San Francisco—Phone Kearny 315

Market Street Ferry—Phone Kearny 4980

1218 Broadway, Oakland—Phone Lakeside 425

Successful Infant Feeding

What to do in Diarrhoea
A majority of cases of diarrhoea occur in babies under six months of age and months it may be either putrefactive or fermentative.
The treatment of fermentative diarrhoea is, stop all sugars and give $\frac{1}{2}$ milk, $\frac{1}{2}$ water and boil the feeding. As the stools show improvement, add $\frac{1}{4}$ oz. Dextrin-Maltose to the total 24 hour feeding then gradually increase the milk and proper feeding for his age and weight.
The treatment of putrefactive diarrhoea is, stop all milk feeding and give $\frac{1}{2}$ Dextrin-Maltose until he is getting the proper water for 12 to 24 hours, then give $\frac{1}{2}$ milk, $\frac{1}{2}$ water, 1 oz. of Dextrin-Maltose, gradually increasing the milk and proper feeding for his age and weight.
Mead's Dextrin-Maltose is 100 per cent low likely to produce diarrhoea than milk sugar or cane sugar.

What to do in Constipation
Constipation in the bottle fed baby is usually caused by errors in his diet. The most common are: too high fat content, causing hard, granular stools; food of insufficient quantity or strength, causing watery stools; not enough sugar; also boiling the milk. Having decided as to the possible cause of the constipation, the thing to do is change the food so as to overcome the cause; for example, fat constipation is corrected by giving a skimmed milk feeding; deficient sugar constipation, by adding $\frac{1}{4}$ ounce of cane sugar to the regular formula. In some of the cases of persistent constipation it is often necessary to add milk of mutton to the feeding, using one teaspoonful to the morning and evening feeding.

What to do in Vomiting
Vomiting may be due to many causes, the principal cause being: too frequent feedings; large bolus in the stomach, allowing the food to be taken too rapidly; not keeping the baby quiet after nursing; slight belly lands.
The treatment of acute vomiting is, immediately stop all food. In severe cases even water should not be given. Colic is at once given, 15 grains every 4 hours until 1 to 2 grains are given. The effect of castor oil is not as good in cases of vomiting as that of calomel, because it is less apt to be retained, and its effect is spoolish.
One level teaspoonful of water, and a teaspoonful or two given at short intervals, often proves helpful in vomiting. Food should not be given until the vomiting has ceased entirely for a number of hours, and it is shown that water is retained.
A feeding of $\frac{1}{2}$ milk and $\frac{1}{2}$ water, as

**A Valuable Book on
INFANT FEEDING**

Sent free to physicians.
Compiled by the origin-
ators of

**MEAD'S
DEXTRI-
MALTOSE**

*Liberal supply of samples
and booklet prepaid on request.*

MEAD JOHNSON & CO.
Jersey City, New Jersey



KING AMBULANCE

PHONE WEST 1400

**THE STORM BINDER AND
ABDOMINAL SUPPORTER**

(Patented)

**ADAPTED TO USE OF MEN, WOMEN,
CHILDREN AND BABIES**WASHABLE AS UNDERWEAR. NO LEATHER.
NO WHALE BONES. NO RUBBER ELASTIC.

Modifications for Hernia, Relaxed Sacroiliac Articulations, Floating Kidney, High and Low Operations, Ptois, Obesity, Pertussis, Pregnancy, Etc.

Send for new folder and testimonials of physicians.
General mail orders filled at Philadelphia only—
within twenty-four hours.**KATHERINE L. STORM, M.D.**

1541 DIAMOND STREET, PHILADELPHIA

F. F. WEDEKIND

2006 SUTTER STREET, SAN FRANCISCO

Agent for California

**THE HOSPITAL OF THE GOOD
SAMARITAN**

—Established 1887—

ORANGE AND WITMER STS. - - LOS ANGELES, CAL.

A General Hospital of one hundred beds for patients, open to all reputable physicians, especial effort being made to serve the profession as a whole. The Training School for Nurses gives a three years' graded course.

**Colfax Hospital for Tuberculous
Patients**

¶ This new building has been provided for the convenience of those patients who are alone or who for any other reason can not or do not care to live in the Cottages of the Colfax School for the Tuberculous.

¶ Terms reasonable.

¶ For further particulars address,

Dr. Robert A. Peers**MEDICAL DIRECTOR****COLFAX, CALIFORNIA**

Morton Hospital

775 Cole Street
San Francisco

PACIFIC TEL., PARK 5306

The hospital has an X-Ray and
Hydro Therapeutic Department

The First 100 Doctors that Send **\$100.00** Can Have This Complete Outfit



Think of your office entirely finished in White Enamel!

To the first 100 Doctors sending us \$100.00 each, we will sell this outfit. Or we will ship this outfit on the payment of \$10.00, and ten equal payments of \$10.00 each, making \$110.00 on the outfit on the deferred payment plan.

Can any physician in America afford to have an office that will not do him justice, when Frank S. Betz Co. is willing to supply one of these outfits on these liberal terms? Every piece of White Enamel furniture offered is electrically welded, and guaranteed to last a life time.

One hundred outfits will be sold at this price, and no changes whatsoever can be made in the assortment.

The \$100.00 Outfit Includes—

- One Isaac's Operating Table with shoulder rests, head rest, stirrups, automatic elevating and reclining device, and drain pail. Table alone is sold by many firms at from \$50.00 to \$54.00.
- One Beautiful White Semi-indirect Chandelier, exactly as illustrated.
- One Magnificent Instrument Cabinet 56 in. high, made of steel, front door beveled plate glass, and containing 6 plate glass shelves.
- One 2-Shelf Instrument Table 16 in. by 20 in.
- One A.M.A. Irrigator 100 in., with base 13 in., White Enamel Bowls, irrigator and tubing complete.
- One Steel Medicine Cabinet with mirror.
- One Eye and Ear Specialist's Chair.
- One Revolving Stool.
- One Waste Pail with automatic lifting lid.

FRANK S. BETZ COMPANY

General Offices and Factory HAMMOND, IND.

Chicago Sales Dept, 30 E. Randolph St.

SOUTHERN SIERRAS SANATORIUM

\$80 per mo.

2,300 Feet Elevation
25 Beds

Individual Bungalows
BANNING, CAL.



\$80 per mo.

A Unique Climate for the
Treatment of

TUBERCULOSIS

Our Remarkable Results Due to
I.—The Exact Climatic Conditions Required. II.—Individualization of Cases.
Ninety Miles from Los Angeles
L. M. RYAN, Medical Director and Manager



STILL ROCK SPA

100 Room Hospital

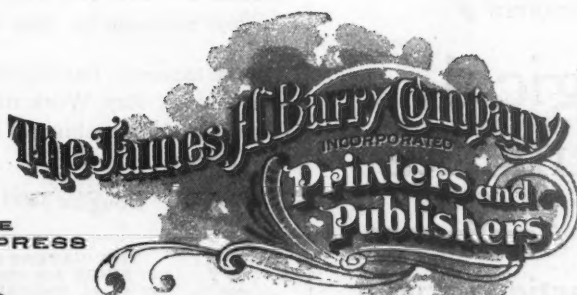
Exclusively for the Treatment of

**DIABETES and
BRIGHT'S DISEASE**

A. J. HODGSON, M.D., Physician-In-Chief

Send for descriptive booklet—address all correspondence to

STILL ROCK SPA, Waukesha, Wisconsin



THE
STAR PRESS



1122-1124 MISSION ST.

TELEPHONES SAN FRANCISCO
PARK 6380 AND 6381

We print the California State Journal of Medicine.

Holstein Cows' Milk Is Required

A professor of one of the leading western experiment stations makes the following statement:—"The point I wish to make is that there is such a thing as vitality in milk, and that it is of equal if not greater importance than its chemical composition, especially for the milk supplies of cities. There can be no question but that the vitality of milk is closely associated with the vitality of the animal producing it. Strong vigorous cows such as Holsteins are animals that are bound to be required."



Physicians are respectfully requested to send for our free literature containing much data and valuable information regarding Holstein Cows' Milk.

Holstein-Friesian Association of America

F. L. HOUGHTON, Sec'y

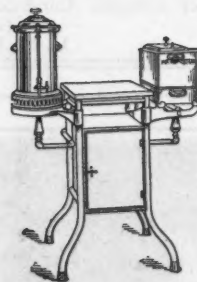
American Building
12-A

BRATTLEBORO, VT.

KENISTON & ROOT

SURGICAL INSTRUMENTS
& PHYSICIANS' SUPPLIES

418 West Sixth Street
Los Angeles



Two
Stores

Write
Us
When
in
Need

1010 10th Street, Sacramento

EUGENE BENJAMIN, *Manager*

MAIL ORDERS FILLED PROMPTLY

A. BERBERT & BRO.

Manufacturers of

Surgical Instruments

Orthopedic Appliances,
Trusses, Elastic Hosiery,
Etc.

PHONE DOUGLAS 5425

432 Sutter Street

Bet. Powell and Stockton Streets

F. FREYTAG, Ph. D.

X-RAY LABORATORY

Rooms 308, 309, 310, 311, 312 Schroth Bldg.
240 Stockton St., San Francisco, Cal.

Instantaneous Radiographs of Chest and Stomach. X-Ray Work of every description. Three portable machines. Hours: 2-4, and by appointment.

Phones: Douglas 3400 Home C 1405



THE WATERS OF ARROWHEAD HOT SPRINGS are especially adapted for the relief of rheumatism and gouty conditions, insomnia, organic diseases and chronic skin affections. The pure mountain air affords almost immediate relief from asthma and hay fever. Infectious cases are not received. Climate ideal the year round, mean winter temperature 50°, mean summer temperature 62°. 2000 ft. above sea level. Miles of beautiful mountain trails, roads and romantic canyons. Resident physician in charge. Arrowhead Water will be shipped direct from the Arrowhead Hot Springs, Arrowhead, California, to any part of the United States, freight prepaid. For Table Use it has no equal.

Send for Descriptive Booklet and Souvenir Pin

ARROWHEAD HOT SPRINGS CO.
ARROWHEAD SPRINGS, CALIFORNIA

DR. JOHN C. KING

Banning, California

MEDICAL TUBERCULOSIS

Accommodations for Invalids

DR. GEO. L. PAINTER

X-RAY LABORATORY

BUTLER BUILDING

135 Stockton Street

San Francisco

**OPERATING GOWNS, COATS &
NURSES' UNIFORMS**

OF ALL KINDS MADE TO ORDER.
A VARIETY OF MATERIALS ALWAYS
IN STOCK

"AN OUTFIT IN A DAY"
SEND FOR SAMPLES AND SELF
MEASUREMENT FORMS

Phone Franklin 3946

MAIL YOUR ORDERS

Nurses' Collars of all Best Makers in Stock

Doctors and Nurses Outfitting Co.

A. S. W. GRUNDY

944 HYDE STREET
Cor. Pine Street

SAN FRANCISCO

Phone Kearny 4591

F. L. HEIM & SON

Manufacturer and Importer of

Fine Shoes

Sole Agent for

Dr. A. Reed's Cushion Shoe
Fine Grades in Correct Styles and
Orthopedic Shapes

228 POWELL STREET

Near Geary

San Francisco, Cal.

POSITION WANTED.

A Licentiate of California desires position
as an assistant to Ear, Eye, Nose and Throat
Specialist. Bay town preferred. Dr. A. L.
Crook, 1526 6th Avenue, Oakland, Cal.
Phone Merritt 2628.

NOTICE.

Will pay well for a good going practice,
either alone or in partnership, in a live coun-
try town of good size. Am well up in general
work, and 34 years old.

Send particulars to "Dr. M. W.," care Cali-
fornia State Journal of Medicine, San Fran-
cisco, Cal.

DR. CASE'S SANITARIUM

LIMITED TO THE TREATMENT OF

Narcotic Drug Addictions

and Selected Cases of Alcoholism

A well-kept private home for a limited number of patients.

All drug patients under Dr. Case's personal care. Methods regular, humane and successful.



Telephone Piedmont 464

For Further Particulars and Reprints Write
C. L. CASE, M. D., 3500 Telegraph Avenue,
Oakland, California

CONVALESCENT HOME

1237 FORTY-FIFTH AVENUE

CAR 20

SAN FRANCISCO

MISS GEORGINA F. McLENNAN, Manager
Phone Sunset 1645

WE ARE four blocks from the ocean; one-half block from Golden Gate Park.

WHAT WE GIVE—Clean, sunny rooms; good food, trays in rooms; special diet.

RATES—\$12.50 to \$17.50 a week.

FOR SALE.

Medical practice—no opposition.

Cost of drugs and furniture.

Reason for selling, illness.

H. C. REAMER, M. D.,

Danville, Cal.

**"St. Thomas Aquinas Sanatorium"**

For the treatment of diseases of the throat and lungs, is located at Mentone, California, on the famous scenic kite-shaped track of the Santa Fe R. R., four miles east of Redlands. Altitude 1800 feet. Offers all the advantages of modern sanatorium treatment in an ideal all the year round climate. *Rates reasonable.*

FOR INFORMATION ADDRESS

SISTERS OF MERCY, ST. THOMAS AQUINAS
SANATORIUM, Mentone, California

or

Dr. Gayle G. Moseley, Medical Director, Redlands, Cal.

**TWILIGHT SLEEP**

Administered at

ST. JOHN'S HOSPITAL

OXNARD, CAL.

Buildings new. Thoroughly modern.

Especially equipped for Dammerschlaf.

W. R. LIVINGSTON, M.D., F. A. C. S.

Experience at Freiburg, Germany

Special INFANT FEEDING

Malnutrition-Marasmus-Atrophy

MELLIN'S FOOD

4 level tablespoonfuls

SKIMMED MILK

8 fluid ounces

WATER

8 fluid ounces

Analysis:

Fat	.49
Protein	2.28
Carbohydrates	6.59
Salts	.58
Water	90.06
	100.00

The principal carbohydrate in Mellin's Food is maltose, which seems to be particularly well adapted in the feeding of poorly nourished infants. Marked benefit may be expected by beginning with the above formula and gradually increasing the Mellin's Food until a gain in weight is observed. Relatively large amounts of Mellin's Food may be given, as maltose is immediately available nutrition. The limit of assimilation for maltose is much higher than other sugars, and the reason for increasing this energy-giving carbohydrate is the minimum amount of fat in the diet made necessary from the well-known inability of marasmic infants to digest enough fat to satisfy their nutritive needs.

MELLIN'S FOOD COMPANY,

BOSTON, MASS.

Counties.	President.	Secretary.	Meets.
Alameda County Medical Association.....	George G. Reinle, Oakland.....	Elmer E. Brinckerhoff, 1st 3rd Tuesday, Oakland Nat'l Bank Bldg.	Hotel, Oakland.
Butte County Medical Society.....	M. P. Stansbury, Chico.....	E. E. Baumelster, Chico.....	2nd Tuesday.
Contra Costa County Medical Society.....	H. S. Abbott, Richmond.....	E. B. Fitzpatrick, Martinez.....	2d Sunday every month.
Fresno County Medical Society.....	J. L. Maupin, Fresno.....	L. R. Wilson, Fresno.....	1st Tuesday.
Glenn County Medical Society.....	Jno. A. Randolph, Willows.....	Frank M. Lawson, Willows.....	
Humboldt County Medical Society.....	E. L. Cottrell, Scotia.....	Lloyd Bryan, Eureka.....	2d Tuesday.
Kern County Medical Society.....	F. A. Hamlin, Bakersfield.....	A. I. Fraser, Bakersfield.....	3d Monday.
Lassen-Plumas County Medical Society.....	W. E. Dozier, Susanville.....	R. W. T. Garner, Susanville.....	1st Saturday Jan., April, July & Oct. 1st & 3d Thursday, except July, Aug. Sept.
Los Angeles County Medical Society.....	Dudley Fulton, Los Angeles.....	Geo. H. Kress, Los Angeles.....	Every Thursday.
Marin County Medical Society.....	E. J. Hund, Ross.....	O. P. Stowe, Mill Valley.....	Meets quarterly.
Mendocino County Medical Society.....	Lester C. Gregory, Fort Bragg.....	O. H. Beckman, Fort Bragg.....	1st Thursday.
Merced County Medical Society.....	Brett Davis, Merced.....	H. Kyberg, Merced.....	1st Saturday.
Monterey County Medical Society.....	H. N. Yates, Pacific Grove.....	W. L. Teaby, Monterey.....	1st Tuesday.
Napa County Medical Association.....	Dr. E. Osborne, Napa.....	C. B. Caldwell, Napa.....	1st Tuesday.
Orange County Medical Association.....	J. I. Clark, Santa Ana.....	R. A. Cushman, Santa Ana.....	1st Tuesday.
Placer County Medical Society.....	H. T. Rooney, Colfax.....	Robt. A. Peers, Colfax.....	1st Saturday every 2d month.
Riverside County Medical Society.....	E. H. Wood, Arlington.....	G. E. Tucker, Riverside.....	2d Monday.
Sacramento Society for Medical Improvement.....	G. L. Stevenson, Sacramento.....	F. F. Gundrum, Sacramento.....	3d Tuesday.
San Benito County Medical Society.....	T. C. Hull, Hollister.....	F. O. Nash, Hollister.....	1st Monday.
San Bernardino Medical Association.....	C. G. Hilliard, Redlands.....	Carroll C. Davis, San Bernardino.....	1st Tuesday.
San Diego County Medical Society.....	B. J. O'Neill, San Diego.....	A. J. Thornton, San Diego.....	1st and 3d Tuesdays.
San Francisco County Medical Society.....	C. C. Moffitt, San Francisco.....	René Bine, San Francisco.....	Every Tuesday.
San Joaquin County Medical Society.....	R. T. McGurk, Stockton.....	Dewey R. Powell, Stockton.....	4th Friday, except July and August.
San Luis Obispo County Medical Society.....	R. M. Bradbury, San Luis Obispo.....	H. W. Jones, San Luis Obispo.....	1st Saturday of each month.
San Mateo County Medical Society.....	W. C. Chidester, San Mateo.....	W. C. Baker, San Mateo.....	1st Monday every 2d month.
Santa Barbara County Medical Ass'n.....	Wm. H. Flint, Santa Barbara.....	W. T. Barry, Santa Barbara.....	2d Monday.
Santa Clara County Medical Society.....	Chas. M. Richards, San Jose.....	Chas. E. Hare, San Jose.....	3d Wednesday.
Santa Cruz County Medical Society.....	P. T. Phillips, Santa Cruz.....	G. P. Tolman, Watsonville.....	1st Monday.
Shasta County Medical Society.....	E. J. Cornish, Dunsmuir.....	Ernest Dozier, Redding.....	Meets quarterly.
Siskiyou County Medical Society.....	C. W. Nutting, Etna Mills.....	J. R. Jones, Yreka.....	Meets 1st Monday of each quarter.
Solano County Medical Society.....	E. A. Peterson, Vallejo.....	Paul Reilly, Vallejo.....	3d Wednesday.
Sonoma County Medical Society.....	F. E. Sohler, Geyserville.....	W. E. Bixby, Sebastopol.....	1st Friday.
Stanislaus County.....	B. F. Surryhne, Modesto.....	S. W. Cartwright, Ceres.....	
Tehama County Medical Society.....	F. J. Bailey, Red Bluff.....	F. H. Bly, Red Bluff.....	
Tulare County Medical Society.....	J. T. Melvin, Porterville.....	A. W. Preston, Visalia.....	2d Tuesday.
Tuolumne County Medical Society.....	E. E. Congdon, Jamestown.....	Wm. L. Hood, Sonoma.....	
Ventura County Medical Society.....	H. B. Osborn, Fillmore.....	R. W. Homer, Ventura.....	1st Monday.
Yolo County Society for Medical Improvement.....	W. E. Bates, Davis.....	Lulu June Beebe, Woodland.....	1st Tuesday, except July, Aug. and Sept.
Yuba-Sutter Counties Medical Society.....	Allen Gray, Marysville.....	A. L. Miller, Marysville.....	Meets every 2 months.

* B.—Secretaries will please notify Journal office of any changes taking place in their respective counties.



St. Francis Hospital and Training School for Nurses

N. E. Corner BUSH AND HYDE STREETS

Accommodations for 100 Patients

Five Operating Rooms
Every Modern Appliance

Board of Trustees

JOHN GRAVES, M. D.
B. A. MARDIS, M. D.

WALTER B. COFFEY, M. D.
W. W. WYMORE, M. D.
MALCOLM O. AUSTIN, M. D.

JOHN GALLWEY, M. D.
THOS. E. SHUMATE, M. D.

The Only Grand Prize

(Highest Award) given to dictionaries at the Panama-Pacific Exposition was granted to

Webster's New International

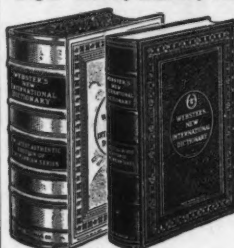
This new creation answers with final authority all kinds of puzzling questions such as "What is the side-chain theory?" "What is the sleeping sickness?" "How is *Przewy* pronounced?" "Where is *Flanders*?" "What is a *continuous voyage*?" and thousands of others.

More than 400,000 Vocabulary Terms. 30,000 Geographical Subjects. 12,000 Biographical Entries. Over 6000 Illustrations. 2700 Pages. The only dictionary with the divided page—a stroke of genius.



The Supreme Authority:

It is the standard of the Federal and State Courts. The standard of the Government Printing Office. The standard of nearly all school-books. Indorsed by State School Superintendents. Universally recommended by Statesmen, College Presidents, Educators and Authors. Adhered to as standard by over 90% of the newspapers.



India Paper and Regular Editions

Please send me specimens of the New Divided Page, Illustrations, Regular and India Papers, etc.

Name

Address

FREE a useful set of pocket maps if you mention this Med. J.


Write for specimen pages.
G. & C. MERRIAM CO.
Springfield, Mass., U. S. A.

FOR SALE.

General practice in one of the best small cities in State. Good opening for well-qualified man. Collections, \$4000.00 per year. Complete office equipment goes with practice. Best reasons for selling. Do not answer unless you mean business. Price, \$800.00. Address, "Dr. G. P.," care California State Journal of Medicine, 930 Butler Bldg., San Francisco, Cal.

FOR RENT.

Choice location for physician or dentist. On street railway transfer corner. 3003 Grove street, cor. Ashby Ave., Berkeley. Elegant new four-room corner apartment. Apartment includes gas stove, instantaneous water heater, heater for living room, hardwood floors, wall bed, etc. Owner, 5548 Lawton Ave., Oakland. Phone Piedmont 5890.



Yours for the Asking

This Valuable Treatise Should Be In the Desk of Every Medical Practitioner

COMPILED—
By the only department of legal specialists in medical protection.

ISSUED—
By the originators of medical protection with seventeen years of success in

**Prevention + Defense
+ Indemnity**

PREPARED FOR—
The information and guidance of the medical profession.

THE MEDICAL PROTECTIVE COMPANY

of
Fort Wayne, Indiana

**Professional Protection
Exclusively**

**Tear Off—Sign
and Mail
NOW**

The Medical Protective Company, Fort Wayne, Indiana

Gentlemen: Please send me, without obligation on my part, your book, "Medical Practitioner's Legal Duty to Render Services," and complete information regarding your Prevention + Defense + Indemnity Plan of Protection with sample copy of your 100 per cent. Efficiency Contract.

Name

Street

City (California)

THE CALIFORNIA STATE JOURNAL OF MEDICINE

Butler Bldg., 135 Stockton St., San Francisco,
California. Phone Douglas 2537

SUBSCRIPTIONS

Prices, Including Postage

Domestic, . . . \$1.00 per annum in advance
Canadian, . . . \$1.50 per annum in advance

Domestic rates include United States, Cuba, Mexico, Hawaii, Guam, Porto Rico, Canal Zone and Philippines.

SINGLE COPIES of this calendar year, 10 cents; of the previous calendar year, also 10 cents; two years old, 20 cents; three years old, 25 cents; in other words, 5 cents additional is charged for each year preceding the last calendar year.

REMITTANCES should be made by check, draft, registered letter, money or express order. Currency should not be sent unless the letter is registered. Stamps in amounts under one dollar are acceptable. Make all checks, etc., payable to "Medical Society, State of California."

VOLUMES begin with the first of January. Subscriptions may commence at any time.

CHANGE OF ADDRESS notice should give both the old and the new address, and state whether the change is permanent or temporary. The change notice must reach us ten days in advance of the date of the issue which is to be forwarded to the new address.

WARNING: Pay no money to an agent unless he presents a letter showing authority for making collection.

ADVERTISEMENTS

Advertising forms go to press fifteen days in advance of the date of issue. In sending in copy time must be allowed for setting up advertisements and for sending proofs. No proprietary medicines can be advertised until approved by the Council on Pharmacy and Chemistry. Advertising rates will be sent on request.

CONTRIBUTIONS

EXCLUSIVE PUBLICATION: Articles are accepted for publication on condition that they are contributed solely to this journal.

CONTRIBUTIONS TYPEWRITTEN: Authors must have their contributions typewritten—double-spaced and with ample margins—before submitting them. The expense is small to the author—the satisfaction is great to the editor and printer. We cannot promise to return unused manuscript, but try to do so in every instance. Manuscript should not be rolled or folded.

ILLUSTRATIONS: Half-tones and zinc etchings, if necessary to elucidate the text, will be furnished by The Journal when satisfactory photographs or drawings are supplied by the author. Each illustration, table, etc., should bear the author's name on the back. Photographs should be clear and distinct; drawings should be made in black ink on white paper. While we cannot guarantee to return used photographs and drawings, we use our best endeavors to do so after the article is published, if the word "return" is written on the back of each.

ANONYMOUS CONTRIBUTIONS, whether for publication, for information, or in the way of criticism, are consigned to the wastebasket unread.

NEWS: Our readers are requested to send us items of news of a medical nature, also marked copies of local newspapers containing matters of interest to physicians. We shall be glad to know the name of the sender in every instance.

Hospitals and Sanatoria

(Continued from November Journal.)

California.

LANE HOSPITAL. San Francisco. Open to the general medical profession. Thoroughly equipped X-ray, pathological and clinical laboratories for diagnostic work. Unexcelled operating department service. Corner Clay and Webster Streets.

MORTON HOSPITAL. San Francisco. Equipped with X-ray and hydrotherapeutic departments. 775 Cole Street.

ST. FRANCIS HOSPITAL AND TRAINING SCHOOL FOR NURSES. San Francisco. Every modern appliance. Five operating rooms. Accommodations for 100 patients. Corner Bush and Hyde Streets.

ST. LUKE'S HOSPITAL. San Francisco. New building. Modern in every detail and department; with 150 beds; now ready for the accommodation of patients. Wm. R. Dorr, Supt. Valencia Street, near junction of Mission Street.

TRINITY HOSPITAL. San Francisco. A first-class modern hospital for the treatment of medical, surgical and obstetrical cases. Corner Page Street and Masonic Avenue.

THE KATHERINE SANITARIUM. Santa Rosa. Open to all reputable physicians. Well equipped. Surgical room. Graduate nurses only. Miss Sylvia Hatch, Supt., 905 McDonald Avenue.

CLARK'S SANATORIUM. Stockton. For the care and treatment of mental and nervous diseases, morphine, cocaine and alcoholic habits. Address Clark's Sanatorium, Stockton, Cal., of J. M. Anderson, Business Manager.

Illinois.

KENILWORTH SANITARIUM. Kenilworth. Six miles north of Chicago. Built and equipped for the treatment of mental and nervous diseases. Approved diagnostic and therapeutic methods. Address Sanger Brown, M.D., Chief of Staff, 59 E. Madison Street, Chicago.

Wisconsin.

STILL ROCK SPA. Waukesha. 100 rooms. Exclusively for the treatment of diabetes and Bright's disease. A. J. Hodgson, M.D., Physician-in-Chief.

Nemo Wonderlift Corsets for all Figures

SELF-HELP
Nemo
WONDERLIFT

So far we have produced four different models in Nemo Wonderlift Corsets. From these models, women of every type of figure (not abnormal) may be accurately fitted.

No. 554 (pictured) is designed for short stout women, or those of medium height—\$5.00.

No. 555 is similar, but with longer lines, for taller women of full figure—\$5.00.

No. 556 is designed for women of slender to medium form, or even for slight figures, as it is made in sizes from 20 up—\$5.00.

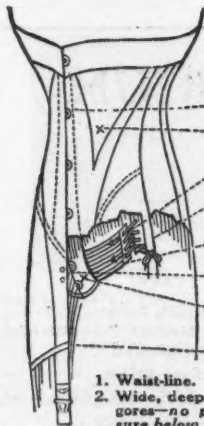
No. 1000 is a corset *de luxe*, for average full figures. Material is a lustrous silk brocade; beautifully finished—\$10.

An unusual fact in this connection is that these wonderful health corsets are also superior style corsets. They give no exterior hint of the concealed device that insures such excellent visceral support.



How to Adjust the Nemo Self-Help Wonderlift Bandlet

The corset is first fitted upon the figure, well down, curved steels reaching lowest point of abdomen. The adjustment of the Nemo Wonderlift Bandlet must be done in this extremely simple manner:—The two protruding laces (on each side) are pulled evenly downward—the same pull on one as on the other. To do this, both laces are wound, flat and even, once around the fore-finger, and firmly held by the thumb. The pull must be directly downward—not outward or upward. Pull slowly. Do not jerk or twist the laces. Tie laces in single knot, finish with single bowknot.



1. Waist-line.
2. Wide, deep bust-gores—no pressure below waist on stomach and liver.
3. Adjustable semi-elastic binder (oblique muscles).
4. Poupart's ligament.
5. Symphysis pubis.
6. Curved teels—no pressure over bladder.
7. Garters attached to semi-detached skirt—no undue pressure on abdomen.

Why This is a Truly Scientific Supporting Corset

The semi-elastic bandlets are in exact apposition to the internal broad ligament, and, in position and action, closely simulate the lifting and supporting functions of the external and internal oblique muscles. The inner side-lacing permits exact individual adjustment, each side being independent of the other, thus providing for inequalities in size and shape of abdomen. The mechanical construction is such that the entire weight of support is carried upon the hip bones, thus protecting the kidneys from undue pressure and the spinal column from distortion.

For all forms of ptosis. Invaluable in inoperable floating kidney. A great help in anteversion, retroversion, prolapsus, ante-partum, post-partum, obesity, hernia. The corset acts as a splint to the internal organs and their ligaments, giving them "physiological rest" until they regain their tone. The elasticity of the bandlets produces a passive massage, reducing fat, correcting the circulation, relieving recent adhesions and preventing new ones.

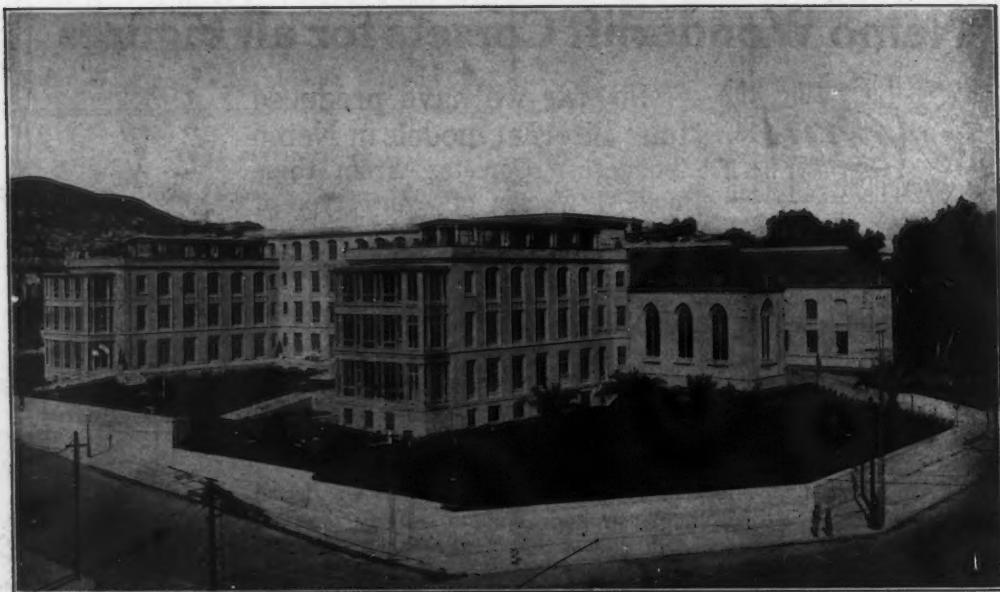
This New Kind of a Binder "Stays Put!"

It can't shift. It gives added comfort. It does not bulk the figure, but reduces it. It accomplishes its purpose without offending the woman's pride of figure. Your patient will wear this corset gladly. Too often she throws your binder aside the minute your back is turned.

It is inexpensive. The price of this corset is \$5.00—less than the cost of the cheapest binder; and it's a big value, simply as a corset, at \$5, saying nothing of this new supporting feature.

We shall be glad to furnish further information on request.

The Nemo Hygienic-Fashion Institute, 120 East 16th St., New York City, U. S. A.

ST. LUKE'S HOSPITAL27TH AND VALENCIA STREETS
SAN FRANCISCO, CAL.

Visiting Staff—C. G. Kenyon, M. D.; Harry M. Sherman, M. D.; Lewis W. Allen, M. D.; Geo. H. Evans, M. D.; Harold P. Hill, M. D.; J. Wilson Shiels, M. D., Visiting Physician; F. B. Carpenter, M. D.; J. H. Barbat, M. D.; Alanson Weeks, M. D.; W. Barclay Stephens, M. D.; Kaspar Pischel, M. D.; W. P. Willard, M. D., Visiting Urologist. Associate Staff—A. Miles Taylor, M. D.; Geo. S. Snyder, M. D.; R. L. Ochsner, M. D.; Wm. Kenney, M. D.; Geo. J. McChesney, M. D.; D. N. Richards, M. D.; G. M. Barrett, M. D.; Sterling Bunnell, M. D.; Edmund Butler, M. D.; J. M. Stephens, M. D.; A. S. Green, M. D.; J. F. Sullivan, M. D., X-Ray Specialist—H. E. Ruggles, M. D. Pathologists—Wm. Ophuis, M. D.; E. V. Knapp, M. D. Consulting Staff—Wm. Watt Kerr, M. D.; Thos. W. Huntington, M. D.; W. E. Hopkins, M. D.; D. W. Montgomery, M. D.; W. R. P. Clark, M. D.

VEN. JOHN A. EMERY, Secretary and Treasurer

WM. R. DORR, Superintendent

F. W. BIRTCH, M.D., Resident Physician

KENILWORTH SANITARIUM

(Established 1905)

KENILWORTH, ILL.

(C. & N. W. Railway. Six miles north of Chicago)

**RESIDENT MEDICAL STAFF:**

Margaret S. Grant, M. D. Sherman Brown, M. D.
Assistant Physician Medical Superintendent
Sanger Brown, M. D., Chief-of-Staff
Chicago Office, 59 East Madison Street

Telephone Randolph 5794 Hours 11 to 1, by appointment only

All correspondence should be addressed to

Kenilworth Sanitarium, Kenilworth, Ill.

Built and equipped for the treatment of nervous and mental diseases. Approved diagnostic and therapeutic methods. An adequate night nursing service maintained. Sound-proof rooms with forced ventilation. Elegant appointments. Bath rooms en suite, steam heating, electric lighting, electric elevator.



The California Hospital

LOS ANGELES

A DELIGHTFUL HOME FOR THE SICK
AND CONVALESCENT

The California Hospital is one of the unique establishments of America. With over one hundred and seventy-five rooms, five operating rooms, delightful roof garden and verandas, spacious grounds dotted with semi-tropical trees and plants, with a corps of nearly one hundred nurses, and with the most nourishing, palatable and healthful food, it combines all of the necessary attributes of a hospital with the comforts of a first-class modern hotel. Particular attention will be given to physicians and members of their families.

Address Medical Director, California Hospital,
1414 South Hope Street, LOS ANGELES, CAL.
Both telephones, Exchange 61.

CLARK'S SANATORIUM



Established by Dr. Asa Clark for the care and treatment of Mental and Nervous Diseases; Morphine, Cocaine and Alcoholic Habits. The Sanatorium is surrounded by a beautiful grove of trees on a tract of land of forty acres, which is utilized for dairy and poultry purposes for the institution.

Any patient may have a special attendant, if necessary, at a reasonable additional cost. Prices moderate. In addition to the Sanatorium proper, there has been erected what is probably the most modern building of its kind in the State, where patients may receive Massage, Vibration, Hydro-Therapeutic and Electro-Therapeutic Treatments. This department is in charge of both male and female nurses who have been especially trained in this line of work.

The food supply and the cooking are of the best. The buildings are two stories in height. The sanitary conditions are perfect. The corridors are wide, airy and light. The appointments are modern and comfortable.

Address for further information

CLARK'S SANATORIUM, Stockton, Cal.

or J. M. ANDERSON, Business Manager
W. W. FITZGERALD, Attending Physician

P. O. Box 297

Phone Stockton 311



908 BUTLER BUILDING
135 Stockton Street
San Francisco

Important Price Reduction

WE ARE PLEASED TO ANNOUNCE
THE REDUCTION ON

Autogenous Vaccines from \$15 to \$10

Sputum Vaccines are reduced from \$25 to \$15

Wassermann & Noguchi Tests at \$5.00



Telephone Sutter 3122
(Private Exchange)
Emergency West 1400

All work in our Clinical Laboratory Department is assigned to skilled laboratory workers—medical men of established reputation—who are always glad to assist in the interpretation of findings. Containers upon request.

THE LABORATORIES OF
REED & CARNICK
ARE DEVOTED TO MAKING

Organic Physiological Products

Full particulars concerning these and answers to all queries will be gladly given.

Please remember that in writing to Reed & Carnick you will be answered by medical men thoroughly trained in hospital work and practice and not by theoretic laboratory workers.

REED & CARNICK
42-44-46 GERMANIA AVENUE
JERSEY CITY, N. J.

THE GARDNER SANITARIUM (INC.)

ANNOUNCES

JAU DON BALL, M. D., *Medical Director*

WILLIAM CARSTON LYNCH, M. D., *Resident Psychiatrist*

SAN FRANCISCO OFFICE—Schroth Bldg., 240 Stockton Street,
Mondays, Thursdays and Saturdays, 2-4 p. m.

TELEPHONE GARFIELD 2620

OAKLAND OFFICE—Dalziel Bldg., 532 15th Street, daily 2-4
p. m., by appointment.

TELEPHONE OAKLAND 5809

SANITARIUM—Belmont, San Mateo County, California.

TELEPHONE—BELMONT—MAIN 41

